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PROCEEDINGS
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NEW SERIES.—VOL. XIV.

*Containing the Papers read before the Society during the
Thirty-Fifth Session, 1913–1914.*

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PAPERS READ BEFORE THE SOCIETY,

1913-1914.

I.—APPEARANCE AND REAL EXISTENCE.

By G. DAWES HICKS.

WE are being told by many of those who ought to know, that at the present time we are passing through a transition stage in philosophical thinking, and that there is being manifested, on all sides of us, a growing discontent with the constructive work of the generations immediately preceding our own. I confess that statements of this sort make less impression upon me than they would do had I not discovered that whenever philosophical inquirers endeavour to take stock of the achievements of the age in which they live, they are almost invariably to be found lamenting over the unsatisfactory condition of philosophical research. The stream of disparaging estimates took its rise at least as far back as Heracleitus, who discerned only an "art of mischief" (*κακοτεχνίη*) in the investigation that was going on around him. Plato's reiterated complaints about the status of philosophy in his day are too well known to be set down here, and even Aristotle, fond as he was of summarising the views of others, rarely does so without seeing in them either blurred and hazy anticipations of his own or else one-sided and crude misinterpretations of the truth. To Descartes, the fundamental conceptions of the contemporary philosophy seemed so infirm that the superstructure reared upon them would collapse before the slightest attack; Locke felt himself confronted with a "sanctuary of vanity and ignorance"; whilst Hume declared that "principles taken

upon trust, consequences lamely deduced from them, want of coherence in the parts, and of evidence in the whole" were "everywhere to be met with in the systems of the most eminent philosophers," and were "bringing disgrace upon philosophy itself." I will not pursue the story; from Hume's day to this its course has been consistent with that which preceded it. "The crisis of modern speculation" is the title of a well-known essay of Ferrier's, and the truth is, I suppose, that to be perpetually in front of crises is an indication, so far as philosophy is concerned, not of decrepitude or of impending death, but rather of healthy and vigorous life. If philosophical thinking is progressive, it must, at every stage of its advance, be creating for itself new problems, and in view of their largeness and comprehensiveness, the situation can scarcely fail to present a certain aspect of hopelessness to the minds that are wrestling with them.

I do not conceive, then, that to speak of a crisis in the speculation of the present day implies any unusual state of affairs. But I have been more and more convinced of late that the subject to which I propose on this occasion to invite attention is being forced upon us by the various diverging lines of philosophical reflection which, during the last few years, have been occupying our minds. Since the publication of Mr. Bradley's great work in 1893, no distinction has been more readily pressed into service as a means of making headway in metaphysical construction than the distinction between appearance and reality. Mr. Bradley explained with much care and precision the significance which the distinction had for him. Anything which comes short when compared with reality is called by him "appearance," meaning thereby not that the thing always itself is an appearance, but that its character becomes an appearance in any judgment we can make concerning it. Reality being conceived as the single Absolute Experience, immanent in finite centres of feeling but never wholly included in any one finite centre, it follows that the contents of a finite

subject's experience will point beyond themselves, and will come to have for knowledge a meaning, this meaning being used as an idea, as an adjective qualifying that which is other than its own being. Appearance, therefore, will be constituted by the looseness of content from existence, by the "what" becoming alienated from its "that" and passing away towards another "that." Discursive knowledge will thus always be knowledge of appearance, because, on the one hand, it will always be knowledge of an adjective of reality, and on the other hand the adjective will not in itself be real. Moreover, because every such finite fact in order to complete itself must pass beyond itself, nothing in the end will be real except the Absolute, although every finite fact, as qualifying the Absolute, will possess a degree of reality, the degree depending upon the amount of supplementation required for its completion. How far this mode of interpreting the distinction is coherent and able to bear the weight of all that is made to repose upon it has been a well worn subject of controversy, but to Mr. Bradley belongs the credit at any rate of recognising the necessity of an attempt to formulate as unambiguously as possible the import of the distinction and its implications. In later treatments of metaphysical problems, however, I find the term "appearance," or equivalent expressions, freely used, but without any corresponding effort to make explicit and unmistakable the exact sense in which it is to be understood or how what it implies is to be interpreted. When, for example, Professor Ward tells us that, according to his system of monadism, "material phenomena are only the manifestation of minds,"* the reflection cannot be avoided that the whole crux of the position is contained in the perplexing notion of *manifestation*, employed to characterise the nature of the phenomena, and that until that notion is cleared up there are no means of testing the strength of the theory. Or, again,

* *Realm of Ends*, p. 247.

when we are told that in the metaphysics of Dr. Bosanquet and M. Bergson "there is practically entire agreement in the way in which the problem is presented," and that "in both theories the world as we know it in our everyday experience is appearance, and the reality has to be sought for,"* one feels, I think, at once that the latter statement could only be truly significant if the connotation, at all events, of the term "appearance" were for the two thinkers in question substantially similar. But if for the one "appearance is distinguished from reality by its selected or partial conditions," and approaches nearer and nearer to reality the more this defect is remedied, whilst for the other "appearance" is a fabrication of the intellect which no amount of supplementation could ever transform into the reality which has to be sought for, then I doubt whether much, or anything, is gained by trying to constitute an identity of problem in the two cases. Or, once more, when Professor Husserl persists in calling the pure science which he takes to be presupposed by empirical psychology on the one hand and by the criticism of knowledge on the other "*Phänomenologie*," he is availing himself apparently of a use of the term "phenomena" such as is baldly indicated in Brentano's remark that "neither ought natural science to be defined as the science of bodies nor psychology as the science of the soul, but the former is to be regarded as the science of physical and the latter in like manner as the science of psychical phenomena." Starting with this more or less popular acceptance of the word, Husserl describes the fundamental philosophical discipline, the field of which he is concerned to differentiate, as a *Wesenlehre*, a theory not of real but of transcendently reduced phenomena, and he constitutes straightway, within the sphere of the phenomena as thus conceived, a distinction between *Tatsache* and *Wesen*, *Reales* and *Nicht-Reales*. Moreover, the inquiry into the groups of

* *Life and Logic*, by Dr. H. W. Carr, in *Mind*, October, 1913, p. 485.

problems, the lines⁷ and methods of research, characteristic of the new science, does not proceed far until a further distinction, and a distinction of vital moment, has to be drawn. In the domain of the psychical there is no difference, he contends, between appearance and being; the psychical is experienced not as that which appears but as *Erlebnis*, and an *Erlebnis* does not present itself (*stellt sich nicht dar*) but is perceptible in immanent perception. In the domain of the physical, on the other hand, the case is very different. A *thing* is necessarily given in mere ways of appearance, because it is itself always transcendent, and can, therefore, as such never form part of the stream of living experience. The spatial thing is, indeed, notwithstanding its transcendence, directly given to consciousness; there is *in* consciousness no picture or sign which is immanently apprehended in the place of the thing itself. It is given, however, subject to the conditions imposed by the circumstance that consciousness is in a state of perpetual change and flux; it is given, too, in various settings and in different perspectives. As given, it shadows off (*sich abschatten*) in manifold directions, and it does so in consequence of its spatial relations to a vast number of other things. But *ein Erlebnis schattet sich nicht ab*; it is *absolutely* there, with all its qualities, etc., in immanent inner perception, and to speak of it as appearing, as presenting itself through adumbration, is senseless.* Stimulating and suggestive as Professor Husserl's analysis undoubtedly is, it suffers, I venture to urge, all through from the want of a preliminary determination of the precise meaning he intends the terms "phenomenon" and "appearance" to bear, and of the position to be assigned in the world of reality to what is denoted by these terms. I have taken simply examples that happened to be ready at hand. They could be easily multiplied, were it needful, from current philosophical literature.

* See Husserl's article in *Jahrbuch für Philosophie und phänomenologische Forschung*, Bd. i, 1913.

In fine, it can hardly be gainsaid that in this reference, as in so much else in philosophy, we run the danger of allowing ourselves to be satisfied with a mere phrase. Certain it is that no metaphysical account of reality is in any way furthered by simply dismissing either some or all the features of the world of experience as merely apparent or phenomenal. Even though we go to the extent of pronouncing that which is specifically appearance to be illusory, still an illusion is none the less an entity that calls for explanation, and the ground of its possibility must be rendered intelligible if such procedure is to be justified as philosophically valid. It does not, indeed, require any great amount of reflective consideration to convince ourselves that many of our ordinary views of things are in a manner illusory, that they imply in regard to real existence what is wholly incompatible with that which we have good reason for thinking must be its nature. But, all the same, as given in experience, they must have corresponding to them something in the conditions under which experience comes about. *Wie viel Schein, so viel Hindeutung aufs Sein*—this dictum of Herbart's retains its validity, even though we reject entirely his mode of representing the constitution of the ultimately real. A conception of reality that leaves inexplicable those features of experience which we characterise as unreal fails undoubtedly in fulfilling one of the main functions required of such a conception.

I.

The consideration upon which I have just been laying stress can, perhaps, best be followed up by reference to the celebrated argument developed by Plato in the *Sophist*. It is one of the outstanding merits of that great dialogue that Plato connects with the larger inquiries of metaphysics what might at first sight be regarded as no more than a problem of psychology or of epistemology. He sees that the feature of unreality attaching to the notion of phenomenon cannot be

disposed of by the easy device of dismissing that feature as a subjective error, incapable of belonging to the world of fact. He sees that at the root of the distinction between appearance and reality there lies the fundamental question as to the interpretation to be put upon negativity as a characteristic of what is known, and it would not be untrue to say that he here treats the notion of $\mu\eta\ \delta\upsilon\nu$ as the crucial notion in a system of philosophy.

"That a thing should appear and seem to be, and yet not be, or that a man should assert what is not true—all this," declares the Eleatic Stranger, "is now, as it always has been, a matter of profound difficulty." And the difficulty arises because the Sophistic doctrine that what seems to a man real or true is real or true for him, and that consequently there is no such thing as falsity, accords, after a fashion, with the dictum of Parmenides that only being is and non-being is not.

By a series of steps, each of them sufficiently obvious, the Eleatic Stranger reaches a position from which it becomes clear that the dictum of Parmenides will have to be abandoned. In the first place, if non-being ($\mu\eta\ \delta\upsilon\nu$) be taken to signify pure nought or nothingness, then non-being is not predicable of any being, nor of any existing thing ($\tau\iota$), for to speak of a thing in abstraction from all being is evidently impossible. And, in the second place, being is not predicable of non-being, as thus understood, and since number possesses being, we cannot speak either of $\mu\eta\ \delta\upsilon\nu$ or of $\mu\eta\ \delta\upsilon\nu\tau\alpha$, and this means that to affirm even the unthinkable or inconceivability of non-being is contradictory, for these terms, no less than the copula of the judgment, all imply the conception of number and $\chi\omega\rho\iota\varsigma\ \alpha\rho\iota\theta\mu\omicron\upsilon$ non-being cannot be so much as named. To fall back, therefore, in arguing against the sophists, upon the notion of appearance or of image ($\epsilon\acute{\iota}\delta\omega\lambda\omicron\nu$) would, on the supposition in question, be manifestly futile, for the demand would then immediately be made, to say what it is that is meant by an

appearance or an image. Were it to be defined as a sort of other, or counterpart, of the true (*τὸ πρὸς τἀληθινὸν ἀφωμοιωμένον ἕτερον τοιοῦτον*), it would be requisite to admit that in that case the *ἕτερον* must in some sense *be* (*ἔστι γε μήν πως*), for the description of it as *εἰκός* would otherwise be nonsense. And if being, in any sense, is to be ascribed to it, how is such being to be pronounced false or fictitious?

"A strange interweaving (*συμπλοκή*) of being and non-being is that in which we are involved," exclaims Theaetetus, and in fact the epithet *συμπλοκή*, extracted from him in a moment of bewilderment, affords the key to the whole situation. For when the theory of Parmenides is further tested, it turns out that the idea of nought, in the sense in which Parmenides opposed it to the idea of being, is (to use Bergson's phrase) a pseudo-idea, which, when seriously entertained, envelops the idea of being in no less perplexity than that by which it is itself encompassed. Whether the universe of reality be conceived as in nature a plurality or a unity, the perplexity is equally patent. If as the former, then, in regard to any two elements, being must either be regarded as a third element over and above the two, or as one of them, or as both, and whichever alternative be chosen, the difficulty will be to explain how the elements can be two and yet in another aspect one. If as the latter, then, presuming names stand for real characteristics, by describing the real as both being and unity, we are forthwith committing ourselves to a plurality. The *εἰδῶν φίλοι*, for example, constitute a radical antithesis between *οὐσία* and *γένεσις*, and contend that the latter is absolutely distinct (*χωρίς*) from the former. According to them we participate in becoming through means of the bodily senses and in true being through means of the mind's rationality (*διὰ λογισμοῦ*). But there arises at once the question, what is implied by this process of participation (*τὸ κοινωνεῖν*) which is asserted of both? Does it not point to a feature which both the contrasted terms, *οὐσία* and

γένεσις, possess in common? The thinkers referred to deny that being involves that which the phrase "participation" might be thought to indicate,—a certain power, namely, of acting and of being acted upon,—and persist in confining this power to becoming. Yet, surely νοῦς, the entity by which *ex hypothesi* true being is apprehended, would itself become unintelligible were it conceived as devoid of activity and life. In short, do what we will, we shall be forced to the admission that κίνησις and στάσις, opposing principles though they be, both *are*, and since it would be absurd to say either that both move or that both rest, or that being is a combination of both, there is no course left save to recognise that by being, in this connexion, is meant a third principle distinguishable from either, but in which both share.

The outcome of the dialogue, then, so far, has been to show that the relation of ὄν to ὄν is no less obscure than the relation of ὄν to μὴ ὄν, and to emphasise the importance of the concept of κοινωνία in dealing with the whole problem which has thus emerged. The next advance consists in establishing the fact that some entities are in communion with one another whilst others are not. Selecting the three εἶδη already referred to, viz., ὄν, στάσις, and κίνησις, it is noted that whilst the last two are each in communion with ὄν they are not in communion with one another. Moreover, since each of the three is the same with itself and is other than the remaining, there may be added ταυτόν and ἕτερον to this list of the principal or leading εἶδη. If now we take any one of the five, say κίνησις, we may say that it is other than στάσις and is, therefore, not στάσις; that it participates in ὄν and is, therefore, ὄν; that it is other than ταυτόν and is not, therefore, ταυτόν, although it is the same with itself and is, therefore, ταυτόν; that it is other than ἕτερον and is, therefore, both ἕτερον and οὐκ ἕτερον; that it is other than ὄν and is, therefore, not ὄν, although in a different sense we have seen that it is ὄν. So that κίνησις is at once being and non-being, and

a like assertion would be true of the other εἶδη mentioned, ὄν itself included.

A point of view is in this way obtained from which a new interpretation can be offered of the conception of μὴ ὄν, and a fundamental difficulty can be thus removed from the notion of appearance. By non-being we do not, in truth, denote the absolute opposite (ἐναντίον) of being, but only that which is the ἕτερον of being, that which is different from it. This conclusion becomes, indeed, inevitable so soon as the element of difference is admitted at all. When being is recognised as that which is common to the complex objects of the determinations of thought, then non-being must evince itself as the negative side or aspect of those determinations, and as, therefore, no less οὐσία than ὄν itself. All the εἶδη participate in being, for they all are, but each is distinguished from being as itself an εἶδος. They are, but they are not it; they exist, in other words, but they are not existence. Or, to bring out the point in the reverse way, existence as an εἶδος is distinguished from, that is to say, participates in otherness in relation to, all the remaining εἶδη. Existence is itself, but it is not the indefinite variety of existing entities. The negative particle distinguishes between positive existences, and even a negatively determined existence "has many predicates," or positive contents. Accordingly, non-being, in the sense of otherness, is the element of connectedness in multiplicity, or the conceptual expression for the pervading continuity that permeates the realm of difference. The theory of κοινωνία εἰδῶν, which Plato is here developing, requires, in short, as its necessary presupposition the principle of negativity, in the sense explained. And the conception of the κοινωνία subsisting between the εἶδη in the realm of ultimate reality leads at once to the conception of a κοινωνία subsisting between the εἶδη and the so-called things of sense-perception; indeed, the latter conception is no more than a consistent development of the former, for a thing, in so far as it is knowable,

is just a group or system of certain εἶδη. The non-reality or relative non-existence attaching to the world of generation means for Plato the impossibility of knowing it without reference to something else, and the fact of its pointing to something else in whatever knowledge we could be said to have of it.

I have used the term "existence" as the equivalent of οὐσία, but Lotze's well-known protest against doing so has not been absent from my mind. Lotze urged that the Platonic doctrine had been grotesquely misrepresented by the notion that Plato had ascribed to the εἶδη a mode of existence apart from things and yet of like kind with the existence of things. The reality, however, which Plato intended to assert of the ideal world was the reality of truth or validity (*Geltung*), and not the reality of actual existence or occurrence. The latter kind of reality accrues no doubt to the ideal elements in those moments in which they become, as objects of an act of presentation, members of this changing world of existence and genesis, but the recognition or thinking of a truth does not involve its having been then and there created for the first time; and Plato was referring to the timeless validity that truth possessed altogether independent of its ever finding manifestation in the world of existence or a place as an object of knowledge.* So far as Lotze's contention merely implies that the εἶδη were not conceived by Plato after the manner of "things," and that Aristotle was unjust to the Platonic theory when he described the εἶδη as reduplications of the particulars of sense, no doubt, I think, can be entertained in respect to its soundness. But I question whether the distinction between the true and the existent, as it is drawn by Lotze, is correctly attributable to Plato. For one thing, the fact that in the very dialogue we have been considering (*Sophist*, 249 A) movement and activity are expressly claimed for the εἶδη presents in itself strong evidence to the contrary. And the general

* Lotze, *Metaphysic*, § 316 sqq.

tendency of Plato's thought can hardly be said to be reconcilable with the antithesis which Lotze supposed to have been explicitly in his mind. Rather would one say that quite simply and directly Plato identifies existence and truth, objective being and universal validity. The $\epsilon\iota\delta\eta$ constitute, in his view, the real objects of knowledge; they are the sources from which the world of phenomena derives whatsoever measure of existence it may be said to possess. And quite in accordance with this way of regarding Platonism, we find Plato taking for granted that a distinction in thought must have invariably an exact correlative in the sphere of existence. Always his problem is to show how existence of the more special, concrete kind is deducible from existence of a general, abstract kind, and the constant difficulty confronting him is that of vindicating the claim not of the $\epsilon\iota\delta\eta$, but of the particulars of sense, to the predicate of existence.

Nevertheless, apart from the legitimacy of crediting it to Plato, the distinction upon which Lotze insisted is unquestionably of vital moment in regard to the problem I am here considering. Lotze's phrase "the validity of a truth" may have been badly chosen, and we may be satisfied to substitute for it the now current phrase "subsistence of a universal." But the important matter was, at any rate, to make clear that a fundamental error is committed when the contents of truth are forthwith identified with the contents of existence. Equally important is, however, the further question whether the concrete, particular things of the realm of existence are rightly described as phenomena or appearances. Lotze held that in the act of apprehension, the content apprehended, whether universal or particular, becomes *ipso facto* an existent entity, and that it owes its existence to a creative function on the part of the mind. It is that assumption, widely prevalent in one form or another, that I wish particularly to examine, and for that discussion the result of Plato's inquiry in the *Sophist* will prove to be helpful.

II.

I can, I think, best bring to light the bearings of the particular issue I wish to raise by first of all briefly examining the modes in which the problem of the relation of appearance to reality has been dealt with in certain historical systems of philosophy. I select for this purpose the systems of Plato, Kant, and Hegel respectively, because in large measure they exhaust between them the solutions which have hitherto been attempted.

1. In the midst of the conflicting opinions entertained by modern scholars in regard to what is to be accepted as genuine Platonic doctrine, one cannot profess to handle with confidence those features of the material with which we are here specially concerned. Plato's speculation proceeds throughout under the influence of a thought which he rarely makes explicit, the thought, namely, of the ideal or real world as being that which is capable of being known by reason ($\nu\omicron\upsilon\varsigma$). The temptation is strong, especially in view of the later Neo-Platonic development, to convert this implicit thought into the concrete picture of an infinite mind, the contents of whose intelligence are the $\epsilon\acute{\iota}\delta\eta$ or ideal essences. And then it is easy to suppose that, after the fashion of certain modern systems, Plato conceived of the infinite mind as differentiating itself into a number of finite minds, and of sense phenomena as being ways in which these finite minds, in consequence of their finitude, imperfectly represent to themselves the truly real. But such a mode of interpretation goes far beyond anything that is to be found in the Platonic texts themselves. The implicit thought by which, as I have said, we do know Plato was influenced, is never employed by him to fulfil the purpose for which the concrete picture serves, namely, to explain the existence of the $\epsilon\acute{\iota}\delta\eta$. And it is not so employed for the very good reason that from Plato's point of view their existence stood in need of no explanation. Rather is it employed by him as the means by which a definite

relation may be seen to subsist between the world of Ideas and the world of phenomena. The implicit thought is developed, no doubt, into the conception of the World Soul (*ψυχὴ τοῦ κόσμου*), characterised by the two functions of knowing and of originating movement. As possessed of these two functions, the Soul can produce change in the realm of the mutable in accordance with a rule or law derived from its vision of the true reality, and its work is represented as bringing about within the region of space-extension something having an intelligibility corresponding at least to the intelligibility with which it is familiar in the realm of Ideas. This trend of reflexion can undoubtedly be traced in the *Timæus* especially. But to the notion of the World Soul in particular I am persuaded it would be an error to attach too literal a significance, and to take Plato to be instituting a mechanical separation between it and the world of Ideas. It is, I should say, his figurative way of expressing one aspect of the latter, for, after the emphatic declaration in the *Sophist* (249, A) that *παντελῶς ὄν* cannot be devoid of life and intelligence, one can scarcely be right in regarding the ideal world as merely a separate model requiring to be supplemented in order to give rise to the concrete particulars of experience. Nor does it seem to me consonant with sound exegesis to attribute to Plato the doctrine that “‘things’ are not separate entities, external to the mind, but sensations existing within it.”* Neither space nor time are, in Plato’s view, subjective, and, as regards even the secondary qualities of bodies, it is hard to reconcile his admittedly uncertain utterances in respect to them with the assertion that they are merely sensations existing within the mind.

Whilst, then, not disputing that a certain measure of justification can be offered for interpreting the Platonic theory after the manner just indicated, I think one is able to trace

* Jackson, *J. of Philology*, vol. xiii, 1885, p. 21.

in the Platonic writings a mode of viewing the world of phenomena which does not throw the burden of explanation upon the constitution of the apprehending mind. I have already referred to the way in which in the *Sophist* the contention is maintained that there must be systematic relatedness, *κοινωνία*, among the *εἶδη* in order that intelligible apprehension of them should be possible, and to the emphasis which, in the attempt to determine which *εἶδη* are communicable with which others, is laid upon the all-important pair of Ideas, *ταύτόν* and *θάτερον*. Each *εἶδος* is one with itself and shares in the nature of Being and the Same; it is also other than all the *εἶδη* besides itself, and shares, therefore, in the nature of Non-being or Difference. I conceive it is to this notion of *ἕτερον*, which, it is true, is not worked out in such a manner as to enable us to speak with certainty, that we must look for a means of understanding the non-being which Plato is wont to regard as characteristic of what is phenomenal. With the conception of the entire realm of the Ideas as being interpenetrated by the form of otherness, Plato combined the position reached by him as the result of his early advance from the Socratic doctrine,—the position, namely, that the *εἶδη* presented an orderly arrangement from the more general to the less general, that they formed a graduated scheme of existence comprising within itself without breach of continuity the sum total of what could lay claim to the title real. Confronting him, in this attempt, was, however, on the one hand, the boundless region of indeterminate particulars, and, on the other hand, the form of otherness or difference as the inevitable shadow, so to speak, of the ideal world itself. If, now, we follow up this conception of *θάτερον*, it is not, I think, difficult to see that the realm of phenomena was for Plato a metaphysical necessity,—not a merely contingent creation of some external artificer. He declares, it is true, that the ideal world cannot be the ground or cause (*αἰτία*) of what is variable and transient. And in the *Timæus* we find him insisting upon the necessity of some third entity

which, whilst affording a place for all that comes into being, should be itself eternal. But this third element is not simply an extraneously introduced *tertium quid*. It is described as the receptacle (ὑποδοχή) and nurse of all becoming, which is apprehensible by a sort of spurious reason (λογισμῶ τινὶ νόθῳ), and is identified by Plato with space (χώρα), which again Aristotle expressly informs us Plato took to be identical with ὕλη (*Phys.*, 1, 9). Space is contemplated by Plato as the very essence of otherness, the pure form of difference; and, as regards positive characteristics, if it will admit, with any tolerable security, the application to it of the term τοιοῦτον, we ought, he thinks, to be content. It is not, indeed, separable from the Ideas. Like them, it is identical with itself and is eternal (ταῦτόν αὐτήν αἰὲ προσρητέον), and although it is only by a λογισμὸς νόθος that it is apprehended, yet the process of apprehension is λογισμός and not αἴσθησις. On the other hand, however, it is emphatically distinguished from the Ideas. There clings to it something unfathomable, something incomprehensible. As the content of a notion it is something χαλεπὸν καὶ ἀμυδρόν, and the manner in which it participates in the intelligible (νοητόν) is, we are told, most bewildering and hard to grasp. For the ὑποδοχή is in no way determinable; it is absolutely formless and void. In and for itself, it is not productive of anything; it is not that out of which (ἐξ οὗ) but that in which (ἐν ᾧ) things become. In short, in relation to the whole realm of Ideas, it is just the element of μὴ ὄν which, according to the argument of the *Sophist*, is inherently involved in the notion of being. This conclusion is almost expressed in the *Timaeus* in so many words, for the γιγνόμενον is described as μεταξύ in reference to the Idea on the one hand and the ὑποδοχή on the other, and it is a familiar Platonic doctrine that a γιγνόμενον stands midway between being and non-being. As projected, then, into space, or, if the phrase is permissible, as presented under the form of externality, the εἶδη come to appear as though they were differentiated into a multiplicity

of shapes or images (*εἰσιόντα καὶ ἐξιόντα*); the parts of space being characterised by their side-by-sidedness, the self-identity of the ultimate reality assumes, under these circumstances, the aspect of innumerable copies or likenesses (*μυμήματα τῶν ἀει ὄντων*). Along this line of reflexion it was natural that Plato should have assigned the importance he did to the mathematical aspects of phenomena. The material substratum of a thing, as he conceived it, was nothing else than figured space, which is capable of expression in numerical ratios, and geometrical forms were the ways in which the *εἶδη* found representation in the otherness of spatial extension. In fact, the so-called *μαθηματικά* occupy in Plato's system a sort of intermediary position between the *εἶδη* and *αἰσθητά*, and serve to bridge the interval between the singleness of the former and the multiplicity of the latter. And in the well-known passage of the *Republic* (vi, 509 D, *sqq.*) where the four stages of intelligence are discussed, numerical ratios are represented as standing in much the same relation to the Ideas as, amongst *δοξαστά*, images (*εἰκόνες*) stand to tangible things.

For our present purpose the main interest of Plato's treatment consists in the essentially objective attitude which, according to the trend of reflexion I have been following, he consistently preserves. Neither ultimate realities nor phenomena are regarded by him as depending for their existence upon mind. As I have said, even the secondary qualities of material objects can scarcely be described as in his view subjective in character. Rather does he seem to say they arise as the conjoint result of the fundamental geometrical properties of things on the one hand and the specific nature of the bodily organism on the other. "The general problem with which the theory of Ideas is concerned," says Professor Adamson, in one of those profound remarks of his which go to the very root of the systems of thought with which he may be dealing, "may be defined as the explanation

of the world of generation.”* Plato attempted, no doubt, to force his way to a solution of the problem along more roads than one, but the direction of his thought which I have been trying to indicate is, I am convinced, that which accords most with the fundamental principles of his philosophy. And what it comes to is, in short, this—that the distinctive features of the phenomenal world rest, as thus conceived, upon the peculiarities of spatial extension, which is, in its turn, a necessary accompaniment of the non-spatial realm of real existence. I dwell not now on the inherent difficulties of the Platonic doctrine—difficulties which may be said to confront every attempt to apply a purely deductive method in philosophical speculation. Whosoever seeks to deduce from the nature of absolute being the character and structure of what is relative and particular must find it, and invariably does find it, impossible to extract from the former that in which the latter specifically differs from it. Plato’s endeavour, strenuous though it was, to show that the world of particulars follows necessarily from the nature of absolute being is no more successful than later endeavours of a similar kind. Much as he strives, in order to meet the exigencies of his theory, to avoid attributing to space positive characteristics, he cannot help doing so, and it is obvious that such metaphorical expressions as *μέθεξις* and *μίμησις* throw no real light upon the relation supposed to hold between the Ideas and things. Despite every effort, the two worlds will fall asunder, and the notion of the systematic unity of real existence cannot, on this basis, be sustained. But when so much has been admitted it would be absurd to conclude that the value of Plato’s work has disappeared. On the contrary, I believe modern research is leading us to see the profound significance of much, in the *Timaeus* especially, that has usually been taken to be fantastic imagery. And particularly, so far as the question we

* *The Development of Greek Philosophy*, p. 128.

have before us is concerned, Plato, I think, was certainly on the right lines in directing attention to space as an essential consideration in respect to the nature of sensible appearance. Whether he was justified in regarding space as the *ἐκμαγέλιον*, the plastic material capable of being moulded into any form, I have not now to discuss, and it may well be the case that upon this doctrine he found it difficult to differentiate between *εἰκόνας* and things. But that space is a condition of the possibility of *εἰκόνας* is a truth which the idealistic tendencies of subsequent philosophy have too often obscured from view.

2. In Kant's mode of handling the problem, the attitude has profoundly changed. As employed by Kant, the term "phenomenon" sums up of itself much that is the direct opposite of the course of reflection pursued by Plato; it indicates, on the one hand, that which alone in the strict sense can be said to be known, and on the other hand, the essentially relative character attaching to knowledge in Kant's view of it. With scarcely less unreservedness than Plato, Kant institutes a fundamental severance between the functions of sensibility and thought, the one pure receptivity, the other pure spontaneity; but thought as he conceives it has no objects of its own, and no means of transcending the limits imposed by sense. On the other hand, it is Kant's purpose to show that what constitutes the reference, as he expresses it, in the apprehended content to an object can never be given, or extracted from the given. The given as such has no mark of the orderliness, the uniformity, the connectedness, which points to the contrast between subjective impressions and objective fact. Thought, cannot, therefore, abstract from sense-data the notion of object. Without putting to himself the question, how we know that sense-affections *are* produced in us at all, Kant takes for granted that they are, and is satisfied to accept as a sufficient criterion of what is not thus produced but is supplied by the mind itself the characteristics of universality and necessity, or, in other words, of objectivity. Those elements in the perceptive material which we

call space and time, and the categories by means of which order, uniformity, connectedness, are introduced into that material, must, therefore, be regarded as *a priori* factors in the complex whole of experience. But inasmuch as these factors are formal only, inasmuch as the entire qualitative content of what is apprehended is of the nature of produced sense-affection, the object known can only be an appearance in the mind and not a reality independent of it. Kant, indeed, was committed to this conclusion by the initial assumption with which he started. If sensibility and thought be viewed as fundamentally disparate functions, and if the object known be regarded as made up of factors contributed by each of these functions, then the said object must be held to be of the nature of a *product* or *construction*, in which the two detached sets of elements have been compounded or welded together. In that case, the process of synthesis will resolve itself into a process of making, and it will be difficult to see how a process which consists in making an object can at the same time be a process of knowing it as already made. Moreover, if thought be conceived as an instrument whereby the given material of sense is worked up into the form of organised experience, the resultant, even admitting it could be a content known, will inevitably occupy the position of a *tertium quid* between the cognising mind and the world of reality. That, indeed, is precisely the ground of Kant's contention that things in themselves are outside the context of experience and cannot be known. But, then, in that case, the difficulty confronts him that it is not reality but appearances that appear; and to speak of such appearances as appearances of reality is meaningless.

The difficulty just mentioned did not fail to force itself upon Kant's notice, and along various lines of reflexion he is to be found wrestling with it. It will be sufficient to refer to one of these. He had reached the conception of nature as a complex of phenomena in space and time connected together by the general relations summed up in the category of reciprocity.

Nature was a whole, each part of which was connected with other parts according to general laws. But within that whole a possible object might be either an object of inner experience or an object of external perception. And the question arises how the distinction, which is thus recognised, between what is real as a portion of the inner life and what is real as a portion of what is taken to be the external world is to be construed. The familiar method of regarding external perception as representative of something existing independently of experience and inner perception as having no such reference could not be followed by Kant. The difference, whatever it was, could only, according to his view, be expressed in terms of experience and not in terms of that which *ex hypothesi* was not and could not be within experience. It could not, therefore, be assumed that an external perception referred to a thing-in-itself and was, on this account, distinguished from an internal perception. Still less could the reality of an internal perception be distinguished from that of an external perception on the ground that in the one case it does and in the other does not adequately represent the thing-in-itself, seeing that the thing-in-itself has as little relation to inner as to outer perception. Both the material object and the self as an object are alike immediately apprehended parts of the context of experience. How, then, do we come to determine the one as an outer object and the other as an inner object? Kant maintains that the distinction is based on the primary and irreducible difference between the space-occupying and the non-space-occupying. All the contents of intuition are in time, some are also in space, or have space as their formal element. Irreducible, Kant calls this difference, and he steadfastly insists that the perplexity in which we are apt to find ourselves when we try to conceive how the inner life should be connected with external corporeal fact can in the long run be traced back to the error of supposing that an answer is possible to the

question *why* our intuitions should take these two forms. The difference, then, is ultimate, and on the ground of this ultimate difference, he argues, problematic, or Cartesian, idealism calls to be rejected. The representatives of problematic idealism had always tended to interpret space as being in its own nature excluded from mind, as being, in fact, the characteristic mark of material or non-mental realities. Naturally, therefore, they had taken the judgment which asserts the existence of extended, space-occupying, objects to be the result of an inference, based upon premises which were themselves judgments respecting the non-extended, non-spatial, facts of the inner life. Such a judgment of existence must accordingly be problematic in character. The critical theory of space as a form of perception had, however, changed the situation. The space-occupying reality could no longer be regarded as lying outside of, or as constituting the opposite of, mind. On the contrary, it was part of the experience which went to build up the mind. Consequently, argued Kant, the apprehension of the space-extended is no less direct and immediate than the apprehension of non-spatial inner states.

But now, although doubtless it may be made out in this way that the space-extended is directly apprehended and not inferred, it is obvious that so far Kant has not touched the problem as to what is involved in the judgment that a particular external object *exists*. Space-extendedness, considered merely as a characteristic of the content of apprehension, will not in itself supply the additional element needed in order to justify the judgment of existence, save indeed such existence as may be ascribed to the content of perception itself and which would belong to contents of mere phantasy no less than to contents of perception. It ought to have been clear to Kant from the outset that neither problematic nor any other idealism can be refuted by emphasising the characteristic of space-extendedness which

is possessed by the contents of dreams and illusions no less unmistakably than it is possessed by the contents of actual sense-perception. Since the judgment that a particular object exists evidently goes beyond the presented content, and implies in its very nature that which is distinct from the presented content, it is futile to offer a characteristic of the latter as its justification. The reference in such judgment is, as Kant himself recognises, to a real existing thing as distinct from the *Vorstellung* of it. Is, then, this real existing thing to be conceived as a thing-in-itself? No, replies Kant, for it can be characterised in no other terms than terms of experience. It is essentially an empirical thing—a thing in space and time, and subject to the conditions imposed by the categories. None the less such empirical thing must be taken to exist, and to exist as distinct from the content of the *Vorstellung* of it. It exists, that is to say, independently of the sense-content in and through which it is apprehended. And later Kant is to be found defining this empirical thing as the movable in space, and declaring it to be the precondition of the awareness, on the part of the conscious subject, of his own existence in time. The assumption of the existence of empirical things, as distinct, on the one hand, from the mere contents of the *Vorstellungen* of them and, on the other hand, from the hypothetical things-in-themselves, is a standing difficulty of the Kantian conception of phenomena, and it is a difficulty from which Kant certainly never succeeded in extricating the critical theory. He is constrained, in short, to describe both the empirical thing and the content of the *Vorstellung* of it as equally phenomena, although the very reasons he assigns for maintaining the phenomenal character of the latter are precisely those which, according to his own analysis, would be absolutely untrue in regard to the former. Kant's difficulty is curiously enough parallel to the difficulty already noted in the Platonic theory, according to which both εἰκόνας in the stricter sense and tangible objects are grouped together as δοξαστὰ. In fact, corresponding

with Plato's phrase *εἰκόνας*, Kant frequently speaks of phenomena, when he is using the term for the contents of *Vorstellungen*, as images (*Bilder*).

An *impasse* of the kind I have been indicating is surely in itself sufficient to induce us to return upon the conception of an object as a complex of sense-impressions unified by means of the relating activity of thought, and to ask the question whether that conception is in truth justified. I would submit that there is, in fact, no warrant for either of the assumptions it involves. As I have tried to show in previous communications to this Society, sense-perception and thought do not evince themselves, on psychological analysis, as two disparate functions, each complete in itself. Rather must we regard their developed forms, in which alone they seem to afford ground for thus separating them, as two stages in the evolution of the one common process of apprehension, which process is in kind generically similar throughout. Now this result carries with it the necessity of radically changing our ordinary notions of the nature both of sense-perception and of thought. On the one hand, the notion of sensibility as passive receptivity must be wholly, and not merely partially, discarded. What is given to the mind, in other words, is never so much impressed material, never an affection, which, in order to be experienced, must be incorporated into the mind's own structure; what is given to the mind, if we retain a phrase that has become misleading, is a real existent entity which is and remains other than the mind itself. Stimulation, impression, affection—these appertain to the sense organs and the cerebral mechanism alone; the mental process which occurs in conjunction or correlation with these bodily changes is an act of discriminating and discerning—of discriminating and discerning not what is *in* the mind, as its processes are in it, but what is presented *to* the mind, or given to the mind, in the sense just explained. On the other hand, whilst in one sense, it is true, an act of combining or relating, thought will

not be conceived as performing the specific kind of synthesis which Kant attributed to it. For whereas sense-impressions or affections could not be *received* as connected, what is *presented* to the mind for discrimination not only may be, but must be, a connected whole. And the act of distinguishing and recognising the given relations as such will be explicable as a more elaborate mode of the process by which the qualities and features of what is presented are discriminated and apprehended. These changes involve, no doubt, a considerable departure from Kantian doctrine, but they may not unfairly be said to follow from a more rigorous attempt to be faithful to the critical method. So soon as they are made, the grounds that weighed with Kant for insisting upon the phenomenal character of empirical things vanish. An empirical thing is certainly not a thing-in-itself, if by that be meant an unknown and unknowable entity. But there is no reason for refusing to recognise it as a veritable fact of the real world. It stands on an altogether different level from the appearances in and through which it is apprehended.

3. The line of reflexion pursued by the Post-Kantian idealists, and especially by Hegel, whilst in certain respects taking the direction I have just been indicating, tended in other respects to confuse its true outcome. Hegel may certainly be credited with having realised with clearness and distinctness the fundamental identity of nature pervading the apprehending process throughout the various phases of its evolution. Some of his best and most fruitful work was devoted to tracing the way in which cognitive experience progressed, through a continuous and unbroken course of development, from its first crude beginning in mere sense immediacy to the higher ranges of intellectual comprehension and rational insight. But the dominating conception of Hegel's advance from the Kantian standpoint consisted in his elaborate attempt to exhibit the world of experience as due to the orderly constructive operation of thought or self-

consciousness. By thought was certainly not meant, what critics of the system have often argued as though it did mean, the subjective activity of the individual mind. Extending Kant's tentative suggestion of an "intuitive understanding," an understanding in which the universal produces and determines the particular, Hegel attained to the notion of an absolute mind or self-consciousness, that manifests its life or intelligence in the whole detailed structure of experience. According to that notion, the products of the constructive activity of thought are in no way to be regarded as dependent upon the individuality of a concrete subject; relatively thereto they are to be described as objective, and the distinction which the finite subject recognises between reality and its own procedure is to be taken to indicate an inevitable precondition of that conscious subject's awareness of its own finitude. Hegel might have admitted, he did in fact admit, that a finite subject may clothe the particular objects of its experience with many a character which expresses no more than the relation of such finite subject to the real which it apprehends, and that in a manner an addition of that kind may be said to be subjective. At the same time, he would have argued, we ought not to be oblivious of the consideration that this very clothing, this very addition, is itself an incident in the whole process of real development, so that the distinction of what we call the objective from what we call the subjective features of a thing rests upon no fundamental severance in the ultimate nature of reality. But empirical things, although independent, in the sense I have indicated, of the mental procedure of the individual mind, and although Berkeley's dictum that their *esse* consists in *percipi* be in truth wholly inapplicable to them, yet are not, in Hegel's view, to be credited with ultimate independence of being. They are, so he would insist, no more than particular ways in which the ultimate nature of real existence is exhibited not merely to finite intelligences but in itself. Regarded in isolation, no one of them is truly intelligible. Each becomes intelligible only in

so far as it is related to the whole, only in so far as it is seen to be the expression of a universal principle of the absolute thought.

Looked at from Hegel's point of view, it is, then, this relation of the part to the whole that yields philosophical significance to the term "phenomenon." Phenomena are not merely appearances to an individual mind; they are appearances of that whose reality just consists in making itself manifest. Essence, to use Hegel's own terminology, is the ground of existence; and essence which exists is what is designated a "thing." Each thing is one way in which the essence or the real makes its appearance, expresses itself extrinsically, and such measure of unreality as attaches to the notion of phenomenon indicates no more than the unreality which belongs to a part when taken in abstraction from the whole. The essentially real *must* appear or show itself,—that is the very characteristic by which it is distinguished from mere being. So that there is no ultimate antithesis to be drawn between a phenomenon and the real of which it is phenomenal. That antithesis which continually besets our thinking between things as they are and things as they appear is not an antithesis between two separate spheres of existence. Things as they appear are not external to or independent of things as they are; things as they are *do* appear, and are, in fact, nothing except in so far as they do appear. The contrast falls within experience itself and in no way points beyond it. And there is no difference in kind between the ways of knowing phenomena and the ways of knowing the real as such. The world of experience is one world, and any portion of that world, if regarded in isolation, carries with it the aspect of incompleteness, of contingency, of illusoriness, which forms one of the peculiarities of the ordinary notion of phenomenon or appearance. But this peculiarity is not in any special way a peculiarity of our subjective mode of apprehending. The absolute whole, just because it is absolute, cannot be *immediately* manifested, and on that very account there is bound to be a "beyond" to what is immediately apprehended. A law,

for example, is, in a sense, "beyond" its manifestations, but the relation between them is not external or fortuitous. They are moments in a single process; the law "appears" in the detailed particulars which it is said to control; there is no law without particulars, and no law except *in* particulars. The Absolute, then, which forms the ground of finite phenomena, and issues forth, so to speak, into them, is not an indefinable other essence to be placed alongside of these particulars. It can only be interpreted in such a way as shall at once conform to the general principle of intelligence and at the same time allow of an intelligible connexion between it and the multiplicity of appearing particulars.

Quite apart from the metaphysical system on the basis of which it is worked out, there are, unquestionably, sufficient elements of permanent value in Hegel's conception of appearance to entitle it to consideration on its own account. To these elements I shall have occasion to refer in what follows. I direct attention meanwhile to features of the conception that seem to me of dubious stability. It can hardly escape notice that, when the ultimate relation of appearance to reality is under discussion, the main burden of explanation is thrown by Hegel upon the notion of "manifestation" or "expression." The minimum demand which the theory ought to satisfy is that it should offer some clear indication of what is to be understood by the perplexing notion of *manifestation*. There can, I imagine, be little doubt as to the region of experience within which that notion, as ordinarily employed, takes its origin. It is that of our own practical activity. When a human agent realises an end previously represented to himself in idea, that which is accomplished is often said to be a manifestation of the mind or character of the agent. But the analogy breaks down hopelessly when, as in the philosophy of Hegel, it is applied to an absolute mind or to absolute thought. So far as the human agent is concerned, not only is the end dependent for its realisation upon a material environment, but the idea itself of

the end is only formed by him in and through relation to that environment. Absolute thought, however, must be conceived as creating its own contents and constituting them as such into "manifestations." And that is just exactly what finite thought never does. It must, I think, be admitted that neither by Hegel himself nor by any of his followers has any serious attempt been made to explicate a notion upon which, as they employ it, so much depends. And this leads me further to note that the Kantian difficulty upon which I laid stress is only escaped by Hegelian thinkers through their simply denying the distinction between the contents of apprehension and empirical things. All phenomena—empirical things, with the rest,—are, according to their view, contents of apprehension. Or, as the doctrine is more familiarly expressed, subject and object mutually involve one another; neither can exist except in correlation with the other; they are inseparable factors in the unity of experience. The subject is that which is for itself through the object; the object, which has no being except for a subject, is that which is for the subject in virtue of the activity of the subject. As usually stated, the contention is open to the obvious charge of assuming what has to be proved. If by object be meant a content of apprehension, then clearly there can be no object without a subject, for, in that case, subject and object are correlative terms. But that in no way settles the question whether empirical things are objects in this sense. Even, however, though it be maintained on grounds less easily disposed of than this, the difficulty of the contention becomes evident when the corollary to it is added, that, in dealing with experience, we have to take account of both subject and object at once, for the one changes with the other. On the contrary, it would seem to be a fundamental postulate of knowledge that a fact is in no way changed through the circumstance that an individual mind comes to be aware of it. If the object changes with every change in the apprehending subject, and if all things are objects, we have the old problem upon our hands of finding any

intelligible sense in which there can be for a community of minds any common world of things at all. In short, objective idealism, as thus represented, comes dangerously near to the weakest form of subjectivism.

III.

In the three important systems of philosophy to which I have been referring very different meanings are attached to what is described as phenomenon or appearance, and, as might therefore be expected, the denotation of the term as employed by any one of these thinkers does not correspond with its denotation as employed by the others. In the Platonic philosophy, the nature of phenomena is least of all regarded as dependent upon the minds of percipient subjects, but on the other hand Plato is most of all compelled to institute a rigid severance between the phenomenal and the real. In the critical philosophy, it may be said to be laid down as a cardinal principle that whatsoever is claimed to form part of the world of experience must be capable of being construed in terms of mind, and Kant tends to interpret this theorem as though it signified that the experience of a conscious subject consisted of *Vorstellungen* and was on that account phenomenal in character, although, as we have seen, he was forced to admit the existence of empirical things distinct from *Vorstellungen*, to allow their knowability, and hence to include them, on that account, within the sphere of phenomenal reality. Finally, in the Hegelian metaphysic, everything that can be objectively apprehended, although not necessarily a *Vorstellung* in Kant's limited sense of the term, is yet a content of mind and is in no case to be conceived as a "thing" existing independently of conscious intelligence.

With whatever consistency, however, empirical things are assigned in all three systems to the realm of phenomena, and it is largely, I think, due to this circumstance that the nature of those phenomenal appearances which, in any case, are certainly not empirical things has been, as I now wish to submit, so

persistently misconceived. All the thinkers to whom I have been directing attention agree in ascribing the predicate of existence to phenomena or appearances. Now, certainly, if by phenomenon or appearance be meant an empirical thing or a determinate object of perception, which as apprehended is placed in relation to other empirical things or objects of perception and in a relation expressible by a general law or notion, then to dispute that phenomena exist would be, as Mr. Bradley puts it, "nonsense." "Successive appearance in space and time is," says Dr. Bosanquet, "what existence means."* And he thinks so because he takes successive appearance in space and time to consist of the empirical things or determinate objects which together constitute the world of our ordinary experience. So, too, Mr. Bradley emphatically asserts it to be "absolutely certain" that appearances exist. Yet Mr. Bradley himself can hardly be said to adhere consistently to that strong assertion. For he is to be found arguing in another place against the theory of "external relations" that any object, if taken apart from its place and position in the whole, is not an "existence" but a "character," which character can remain unchanged, though the existing thing is altered with its changed existence.† And since, according to his own account, an appearance is always more or less of a fragment taken apart from its place or position in the whole, the consequence would seem to follow that an appearance is not an existence, but simply a character. I am not, however, concerned to press that criticism now. The contradiction, if it be one, points, I think, to the importance of the consideration upon which I am anxious to insist.

Leaving, then, for a moment the question whether empirical things are rightly taken to be phenomena, I concentrate attention upon what, in ordinary common-sense speech, would be described as the "appearances" of such things as

* *The Value and Destiny of the Individual*, p. 15.

† *Appearance and Reality*, 3rd ed., p. 578.

distinguished from their reality—in other words, upon what I may be permitted to call, for want of a better word, the “contents” of our perceptions, when our perceptive activity is directed, as we say, upon real objects. An example will serve to illustrate the problem we have to face. Let me take one that has recently become sufficiently popular. A table of a certain shape, with sheets of paper upon it, I am convinced is beside me as I sit writing. This table, or what I take to be this table, appears to be of slightly different colour from different points of view, and although I believe it to be really of the same colour all over, the parts of it that reflect the light will look brighter than the parts of it which do not. So again, if the opposite sides of the table are “really” of equal length, they will look as if the nearer side were longer; if they are “really” parallel, they will look as if they converged to a point away from the spectator, and so on. The question I wish to raise is, whether these various appearances can be said to exist *in the same sense* in which we unhesitatingly speak of the table itself as existing.

The answer to that question will largely depend upon the way in which we conceive these appearances to come about. If it be supposed that they arise in some way as an effect or consequence of the operation of the real thing upon the mind, or that they are produced through the operation of activities occasioned by the real thing upon the nervous mechanism of the bodily organism of the percipient, then doubtless the appearances must be regarded as existent entities. In that case, the appearances, conceived as distinct and separate from the real thing, will be taken themselves to constitute an object, and it will be *this* object and not the real thing that will be held to be immediately known. The produced object will thus be regarded as standing between the knower and the real thing, and the doubt will inevitably be awakened whether after all we are entitled to assume the existence, apart from them, of any real thing at all, which *ex hypothesi* could only in that

case be mediately inferred and never directly apprehended. This whole mode of accounting for the act of perception seems, however, to me to be, for reasons I have urged elsewhere, and briefly indicated above, psychologically erroneous and untenable. If, on the other hand, we start from what Professor Alexander would describe as the compresence of the mind with the real thing, and if we recognise that what is occasioned by that compresence is not a new object, but, through the mediation of the bodily mechanism, an act or process of apprehending the real thing, then the appearances will not require to have a mode of existence ascribed to them independent of, and separate from, the reality of which they are appearances. They will evince themselves then as ways in which the reality itself is apprehended,—as partial, imperfect, incomplete ways in which the reality is known.

Proceeding, then, from the latter standpoint, I lay stress on the contention that appearances are not objects but are ways in which objects are apprehended. Now, Kant, as we have seen, when he is engaged in emphasising the wholly relative character of what he calls phenomenal experience, when he is desirous of distinguishing empirical things from things-in-themselves, uses as his most potent argument the consideration that empirical things are, in the long run, no more than *Vorstellungen*, presentations to the mind, and implies certainly that they are within the mind just as the knowledge of them is within the mind. But, as I have tried to show, this argument breaks down the moment the question is pressed as to what, in such case, is to be understood by the existence of an empirical thing. Kant was obliged to recognise that the object, to which, in his phraseology, the *Vorstellungen* referred, is not itself within the mind in the sense in which the contents of *Vorstellungen* may be said to be within the mind. If, therefore, in an act of perceiving, the empirical thing is the object apprehended, it follows that the contents of the *Vorstellungen*, in and through which the apprehension of this empirical thing is effected, cannot as such

constitute that object. The notion that ^{they} do constitute it only seems irresistible because we persist in looking upon sensibility as passive receptivity, as the receiving of what is given, in which case, of course, what is given can be no other than sense-data, sense appearances, and these must make up the object perceived. What, we shall then ask, as Kant asked, can empirical things be but phenomenal appearances?

The crux of the entire situation lies, I am convinced, here. The issue can be raised by referring to the assumed mental act it has recently been proposed to call "knowledge by acquaintance." That process is described as the direct or immediate awareness we have of anything without the intermediary of the process distinguished from it as the process of inference. Thus, it is argued, in the presence of a table I am acquainted with the sense-data making up the appearance of that table,—its colour, shape, hardness, smoothness, etc.; these are all things of which I am immediately conscious when I am said to be seeing and touching the table. Knowledge of the table as a physical object, on the other hand, is, it is maintained, not direct knowledge, but is obtained, such as it is, through acquaintance with the sense-data making up the appearance of the table, whilst the actual thing which is the table is not, strictly speaking, known to us at all. Now, I believe this account of sense-experience to be based on an error similar to that which vitiated the Kantian theory. The error consists, I think, in supposing that the *sensa*, or *sensibilia*, as distinct from the physical object, are themselves the entities upon which the act of apprehension is directed. I urge, in the first place, that upon this view the "act of apprehension," as it is called, becomes inexplicable. For an "act," I take it, implies the exercise of some function; it cannot consist in a mere relation between the mind and a sensible. And if we are serious with that implication, it will be impossible to escape the admission that in knowing the sensible there breaks out again the contrast between what is known and the way in which it is known. I can understand, although I do not agree with, the position that in sense-

awareness, there is *no* distinction to be drawn between the sensing and the sensum. But what I do not understand is how there can be an *act* of apprehending a sense factor which is distinct from the said act, and yet the "act" itself be simply a mere "relation" between the mind and this sense factor. If the mind does nothing, with what propriety is it said to "act," and if it does something, in what can its activity consist if not in that process of discriminating, comparing and relating, which, so far as psychological analysis can disclose, would seem to be the nature of its functioning throughout? Kant's dictum affirming that in and by itself sense would be blind does not lose applicability in this particular context, and is certainly not evaded by the easy device of postulating as a fact that of which it is required to show the possibility. I urge, in the second place, that to suppose sensibilia, as distinguished from physical things, are directly apprehended objects is contrary to what can be gathered from a careful examination of actual experience. What we are *immediately* aware of in mature sense-perception are certainly not sensibilia understood in the way I have indicated. In the presence of the table, I am not *immediately* aware of *patches* of colour, of appearances of shininess, of smoothness, of an oblong shape, and the rest. What I am *immediately* aware of is a single solid object, possessing innumerable characteristics, which, when I am challenged, I can enumerate in detail, but which are never presented in isolation. It is, for example, only by a deliberate and sustained effort of attention, and through the aid of artificial devices, that I apprehend patches of colour in and for themselves at all. Our ordinary experience is so dominated by what is misleadingly called "the reference to externally existing things" that visual presentations, or sensibilia, are not as such contemplated by us, but do duty merely as signs. Our interest is centred upon what we take to be the real nature and relations of things, which are interpreted no doubt by means of

visual (and other) presentations, but which there is no ground whatever for supposing are themselves groups of such presentations. If, then, the term "immediate" be used in reference to our mature experience, it is of *things* that we are immediately aware, whilst presentations simply as such are not immediately known by us.

Many considerations will serve to illustrate the truth of what I have just been urging. For example, it is a well attested psychological fact that concentration of attention upon visual presentations reveals a duality or duplication of these presentations which in ordinary circumstances passes entirely unnoticed. By far the larger number of the visible objects lying within the field of vision at any one moment, although usually recognised by us as single, do nevertheless simultaneously affect both eyes, and give rise to a duplication of presentations of which by an effect of attention we may become conscious. This duality of the visual presentations is, however, altogether overmastered by the teaching of experience that the objects within the visual field are single and not double; we are immediately aware not of the dual sensibilia but of the oneness of the object. Again, there can be little question that in ordinary experience the apprehension of what is called the distance of an object appears to be no less immediate and direct than the apprehension of its colour. Yet it is psychologically demonstrable that what appears to be the immediate apprehension of distance is in truth a complex estimate based upon a number of data and is essentially of the character of a judgment. But of the data themselves, on which the judgment is based, there is no immediate apprehension; their influence is largely indirect and in the region of obscure consciousness. And what is true of the apprehension of distance is true in like manner, though with certain qualifications, of the apprehension of form, of magnitude and of movement. If, then, all these factors which go to make up what seems to be the immediate awareness of an object indicate that processes of judging,—that is to say, of discriminating, comparing and relating,—are throughout operative, it is certainly difficult to

resist the conclusion that in the apprehension of so-called secondary qualities the like mental activities are not involved.

So far I have been confining attention to mature experience, and it is to mature experience that those who defend the theory I am criticising invariably appeal. But the case I am trying to represent is strengthened and becomes much more convincing when we extend our view to the way in which experience develops—a point of view, be it observed, too often ignored in discussions of the problem before us. Experience does not advance by a gradual building up of the concrete objects of perception from originally isolated and detached sensibilia. We do not start with the apprehension of innumerable patches of colour, with visual presentations of form and of magnitude, with tactual presentations of hardness, smoothness, and the like, and out of such definite appearances *construct* the complexes which are designated “things.” In the evolution of conscious intelligence nothing of the kind takes place. On the contrary, we start with an environment the characteristics of which are but dimly and confusedly apprehended, and the parts of which are but crudely and vaguely recognised as distinguishable from one another. And conscious intelligence advances by a continuously growing capacity of discriminating differences, of distinguishing features previously undistinguished, of holding elements apart that formerly were confused together. By degrees things come to be differentiated from things, and the properties of any one thing to be differentiated from one another and from the thing. I do not apprehend the brown colour of the table merely on account of its distinction from other actual or possible hues, but I can only apprehend it as a distinct content, as a single fact of experience, if there are supplied in my inner life sufficient means for discriminating it from all else. In short, at no stage in the history of the mental life, and least of all in the earlier stages, can there be said to be immediate awareness of detached and isolated sensibilia. Such awareness as we have of these is always attained through a process of abstraction, and cannot, therefore,

be "immediate" in the sense that is claimed for it. The conclusion, then, to which the facts I have been dwelling upon lead is this—that sense-appearances presuppose, as the condition of their possibility, real existing things which appear, that the appearances are dependent upon the realities, and not the realities upon the appearances. Accordingly, if we are entitled, in regard to knowledge, to speak of an immediate relationship, that relationship must subsist between the mind and things, whilst the relationship between the mind and the appearances of things is secondary and derivative.

Although in accord with the ordinary common-sense view, which it does little else than translate into accurate phraseology, the conclusion just expressed will probably be pronounced paradoxical, or worse, by the adherents of many current modes of philosophical thought. The dogma that all we can know directly and primitively of the external world consists of sense-data, sense-appearances, and that any knowledge we suppose ourselves to possess of things is inferential and precarious, is constantly re-asserting itself. I have been maintaining, on the contrary, that there is no difference in kind between the ways in which we know appearances and the ways in which we know real existing things. Things, it is true, do not "wander into our consciousness" but then neither do sense-data "wander into our consciousness." According to the theory I am criticising, "the faculty of being acquainted with things other than itself is the main characteristic of a mind," and sense-data should rather be said to be "*before* the mind" than "*in* the mind." And *in* the mind in the sense in which mental acts are in the mind I agree they never are. But, on the other hand, in normal circumstances it is only as properties of things that they are "before the mind"; in abstraction from things, as mere presentations, they are not usually "before the mind," and, indeed, the ordinary unsophisticated consciousness is not so much as aware of their presence. To suppose that sensibilia *in such abstraction* and as the raw material of sense-apprehension actually exist and are

cognised as objects, and that they are the sole data with which observation and experiment can deal, is, I submit, to make an assumption which the facts of experience certainly do not warrant and for which, so far as I can see, no justification can be obtained from elsewhere.

I contend, then, that neither philosophical nor psychological analysis does in truth invalidate what certainly seems to be an empirically established fact, that a finite mind is a real existing entity in the midst of a vast environment of other minds and of physical objects. The physical object is, it is true, not to be thought of as consisting merely of imperceptible molecules, composed of atoms or, in the last resort, of electrons. Not that there is the least occasion for throwing doubt upon the results which physical science appears to be establishing. All we need be concerned to maintain is that these elements do not exhaust the nature of the physical object, that the physical object in its entirety possesses also, in addition, the properties which have been described as secondary qualities. And, except the ungrounded assumption that the latter are products of mechanical motion, I can find no reason for holding such a conjunction of factors to be inconceivable. Upon this object, then, in consequence of the cerebral change to which stimuli emanating from it give rise, a mental act is directed, and the object is apprehended; it is distinguished from other objects, and its characteristics are discriminated, but always imperfectly and in fragmentary fashion, and in some circumstances much more imperfectly and partially than in others. It is precisely in this contrast between the imperfect, the partial, and the perfect, the complete, that the significance of what is denoted by the term "appearance" is to be discerned. The object is apprehended only incompletely, and that incompleteness may often amount to positive error. But the incompleteness does not give rise to a new object, does not bring into existence a *tertium quid* which is thenceforth there, ready to be apprehended whenever the opportunity occurs. On the contrary, it is throughout still the physical object that is being apprehended,

and upon which the act of apprehension is directed ; the appearances arise only in and through the act of apprehension being directed upon the physical object. In conformity with this mode of viewing the facts, we find that in numerous cases the continued direction of the apprehending act upon the object results in increased discrimination of the properties of the object,—in a gradual lessening, that is to say, of the incompleteness of its apprehension. Fresh characteristics of it are noted ; characteristics of it previously noted are more clearly and distinctly discerned.

When we pursue the matter further, a number of other considerations require to be taken into account, but with the general interpretation I have been trying to explain the ascertained facts will, I am persuaded, be found to accord. For instance, the importance of space as a determining factor in the character of appearances becomes, on careful scrutiny, more and more manifest. To take the simplest illustration, it is a notorious circumstance that near objects are visually apprehended more clearly and accurately than distant objects. A table which from one point of view appears rectangular may from a more distant point of view appear to have two acute and two obtuse angles. There is, however, absolutely no need to resort to the violent and impossible assumption that the table really possesses both shapes, or that these different shapes, as distinct from the real table, both exist, ready to be seen by observers in suitable positions for seeing them. For, given the existence of the table and its particular shape (whatever it may be), the apparent shape of the table is explicable as a consequence of the real shape and of the known characteristics of space. In other words, owing to the conditions of perspective, to which visual perception is necessarily subject, the spatial relations of a material object can never, as a matter of fact, visually appear precisely as they are. So that here, and in all such cases, the distinction between appearance and reality is necessitated by the very nature of space itself. Consider, again, the time-honoured instance of a straight stick partially immersed in

water. The stick in water is, it is true, not really the same thing as it was out of the water, but all the same, there are good and sufficient reasons for asserting that it is not really bent as it appears to be. The laws of refraction being, however, what they are, that the stick, under such circumstances, should appear visually as bent is an inevitable consequence of the actual state of things. Here, as in the previous instance, the distinction between appearance and reality is necessitated by objective conditions. If, however, we persist in saying, as some writers do, that the visual appearance *is* bent, we are going far beyond what the facts warrant. We are assuming that it is upon a bent entity of some sort that the act of perception is directed. And that is precisely what strict adherence to the facts gives us no ground for assuming. On the contrary, what the facts entitle us to say is that, when the act of perception is directed upon a straight stick partially immersed in water, then the stick in question appears bent, and that no such appearance would arise unless the act of perception were, or had been, so directed. The appearance, that is to say, does not subsist at all apart from the physical object of which it is an appearance. Once more, I believe an argument of similar purport is applicable in regard to the secondary qualities of physical things. Take the case of colour, and let our example be that already used of the table. It is contended that there is no one colour which pre-eminently appears to be *the* colour of the table, or even of any one particular part of it. I think this assertion open to well-founded objection, but meanwhile let it pass. The table appears to be of different colours from different points of view, and there is, it is maintained, no reason for regarding one of these colours as more really its colour than the others. Further, even from a given point of view the colour will seem different by artificial light, or to a colour-blind man, or to a man wearing blue spectacles, while in the dark there will be no colour at all, though to touch and hearing the table will be unchanged. Therefore, so the argument runs, colour is not something which

is inherent in the table, but something depending upon the table and the spectator and the way in which the light falls on the table.* It is obvious, I think, that this argument is fallacious, and that the conclusion does not follow from the premisses. For, in order to test it, suppose that colour of some kind *is* inherent in the table, that the table *has* a specific colour. Then, surely, there would be nothing to conflict with this supposition in the circumstances that such real colour will present a different aspect if another colour be reflected upon it, or if a blue pair of spectacles intervene between it and the eyes of the observer, or if it be enveloped in darkness rather than in daylight. The reasoning would only be valid on the assumption that if the table is really coloured, the real colour *must* appear the same in darkness and in daylight, through a pair of blue spectacles and without them, in artificial light and in the sun's light—an assumption which, on the view I am taking, is at once to be dismissed as untenable. If the colour did appear to be the same in these varying circumstances, then certainly there would be reason, and sufficient reason, for doubting the reliability of visual apprehension. For obviously the conditions mentioned—real, objective conditions, as I take them to be—cannot be without influence upon any real colour the table may be said to possess. With reference to colour-blindness a different set of factors come into play, but the principle is the same. Assume for the moment that the table really is brown, and that by normal vision it is apprehended as brown, then there is nothing extraordinary in the fact that it should appear different to the man whose vision is not normal. It would, indeed, be extraordinary if it did not. If *normal* vision is the way in which the real colours of objects are more or less accurately apprehended, is it not a strange demand to make that *abnormal* vision must also likewise be a way of more or less accurately apprehending them?

* B. Russell, *The Problems of Philosophy*, p. 13.

Finally, the specious argument that turns upon the difficulty of determining what the actual colour, if there be one, of a physical object is seems to me utterly irrelevant. Granted that the difficulty is insuperable—and I should be very far from admitting the insuperability—still the difficulty of determining the actual colour of an object is no more a reason for supposing it has not got one than the insuperable difficulty of determining the character of the other side of the moon is a reason for supposing that the other side of the moon is not hemispherical.

I have been purposely emphasising the objective conditions of phenomena or appearances, because these are too often overlooked. I have done so, however, with no intention of minimising the subjective factors also involved. The facts of revival and of memory are sufficient in themselves to indicate, not indeed that sense-data are retained and preserved as entities in the mind, but that, by means of a process of the nature of which we know little, the characteristics of what has once been perceived can be recalled. And it is obvious that in imagination and thought the mind is capable of exercising a certain constructive power in regard to the contents thus at its disposal. Nor is such constructive activity confined to efforts of a deliberate and purposive kind. Throughout the life of mind there is involved the working of what Lotze designated "psychical mechanism," and of what Kant partly had in view when he spoke of "a blind but indispensable function of the soul." In dreaming, for example, what appear to the dreamer to be real existing objects are apprehended by him, although we know that, as a matter of fact, no such objects are present. And it is no doubt considerations such as these that seem to contradict the position that appearances arise through the direction of apprehending activity upon real existing things. But I do not believe there is in truth any such contradiction. We are concerned here with the processes of revival or memory, and scanty though our psychological knowledge of the nature of these processes certainly is, there are certain general propositions one can lay down respecting

them, and which are of significance in this connexion. In the first place, imagination and memory are dependent upon perception and would be, in the case of any mental life with which we are familiar, impossible without it. They do not produce new characteristics ; such construction as there is consists in manipulating what is revived of characteristics previously perceived. In the second place, the contents revived are never isolated sense-data. As Professor Ward puts it, "what are revived in memory and imagination are percepts, not unlocalised sensations and movements."* Now, even those who regard sense-data as in themselves given objects can scarcely maintain that images, if one may use that term for revived contents of the character indicated, are also there, ready to be apprehended, prior to the act of imagination coming into operation. One can hardly suppose, for example, that dream-apparitions are actually given in their entirety, and that the dreamer has simply to discern and contemplate them. In the third place, it would seem likely that in imagination, and particularly in dreaming, some amount of actual perception is taking place,—that the mind, in other words, is even then directed upon an external object, and that this object, which under the circumstances is barely discriminated, becomes the centre of reference for masses of suggested imagery.

Neither the facts of perception nor those of imagination and memory lend countenance, then, to the view that appearances are objects. Nor do they in any way tend to show that appearances are mental entities, or, more specifically, reactions of the mind on stimulation. As a reaction of the mind, an appearance would not be the appearance of what was other than the mind, but, if the term "appearance" had in that case significance, an appearance of the mind itself. But the mental life, so far as its nature is psychologically known, consists of a stream of conscious process, evincing itself in the various modes which it is

* *Encyclopædia Britannica*, ix ed., vol. xx, p. 57.

customary to describe as those of perceiving, imagining, thinking, feeling, willing, and so forth. In what conceivable way can this stream of process be supposed to give rise to colours and sounds, tastes and smells, and the other data of sense? To speak of sense-data as products of conscious process is, in truth, as meaningless as to speak of sense-data as products of mechanical movement. Sense qualities are *sui generis* and to attempt to explain their mode of origin is as fruitless as to attempt to explain the mode of origin of matter or of mind. Not to produce them, but to become aware of them, is the function of conscious process, and it is that awareness which is capable of being revived and reproduced when the object is no longer present. If, then, sense-data are mental entities, it can only be because the mind, in addition to being a stream of conscious process, is also a storehouse of sensuous material. I do not envy the task of him who tries to be serious with such a conception as that. What intelligible notion could we frame of a mental life which, besides fulfilling the functions indicated by the term "mental," was at the same time a repository of huge supplies of the ingredients required for the construction of objects, such ingredients being massed somewhere in the regions of sub-consciousness, where also the mysterious operation of construction must be supposed to be going on? The assumption would be less readily made if the question of what it implies were not so lightly passed over.

In the light of the considerations upon which I have been insisting, the significance of the contention that appearances, as ways in which existent reality is apprehended, are not themselves existences will be sufficiently manifest. To some extent, at least, this is but a re-statement of Aristotelian doctrine. Sense-perception was characterised by Aristotle as a power of apprehending the forms or essences of sensible objects without their matter—that is to say, he did not conceive the content of the perceiving act to be an existing entity, because to constitute an existing entity both matter and form were, in his view, necessary. Aristotle, it is true, maintained

that the sentient soul was passively affected (*πάσχει τι*), but such passive affection was, in his view, only one side of the whole process, which besides being in its more important aspect the actualisation of what the sentient soul is potentially was also essentially in nature an act of discriminating. Much more certainly does the non-existential character of the contents of apprehending activity, or as we may now say of appearances, follow from the nature of perception, if the notion of passive receptivity be entirely relinquished. The external object itself is, so far as can be discovered, in no way altered or affected through the fact of being apprehended—none of its constituents are abstracted from it and transferred into the apprehending act—but in and through the apprehending act there is *awareness of* certain of its features, and it is this awareness of a group of its features that constitutes that group, as the content of the act of apprehension, an appearance as contrasted with the real existing thing. The apprehending act exists, the external object exists, but there is no ground at all for regarding the appearance as a third existent. On the contrary, there is every ground for not so regarding it. Appearances, as distinct from the things of which they are appearances, do not occupy any part of the common space in which physical objects exist. They do not set other things in motion, and they are not set in motion by other things. They do not act and react upon one another; they do not obey the law of gravitation or of chemical affinity; they do not exert force, nor are they modes of energy. They do not perceive or think or feel or will. They do not, in short, form part of what we describe as the inter-connected system of concrete existing facts. Now to define an ultimate term, such as the term existence, is, of course, impossible. We can only point to instances of it, just as we can only point to instances of red, in order to make clear what we mean by redness. And there can, I take it, be little question that in ordinary usage we should not speak of that as existing of which all the characteristics I have just specified have to be denied. It

is but expressing, in a different form, Plato's argument in the *Sophist* to emphasise the necessity of drawing a distinction between existence and being. The distinction is, as Mr. Russell says, essential, if we are ever to deny the existence of anything. "For what does not exist must be something, or it would be meaningless to deny its existence; and hence we need the concept of being, as that which belongs even to the non-existent."* In refusing, then, to ascribe existence to phenomena or appearances, we are not dismissing them to that fictitious realm of nothingness, of which Plato tried to demonstrate the impossibility. Appearances most indubitably *are*, but their mode of being is not *the* mode of being which is exhibited by existing things. "We shall find it convenient," writes Mr. Russell, "only to speak of things existing when they are in time, that is to say, when we can point to some time *at* which they exist (not excluding the possibility of their existing at all times)."[†] I venture to submit, although he will not have it so, that, according to this criterion also, a sensible appearance must be said, no less than a universal, to "*subsist* or *have being*, where being is opposed to 'existence' as being timeless." As an abstraction, of the kind I have been attempting to explain, from the existing object, the sensible appearance is, in truth, no less than a universal, unchangeable, rigid, eternally the same with itself. Nothing can alter it, for the simple reason that it is not an entity which can be operated upon, acted on, or affected in any way whatsoever. The process of apprehending the object, from which, in the manner described, it is abstracted, is doubtless dependent upon temporal conditions, and is in time, but the sensible appearance itself differs not at all, so far as timelessness is concerned, from a universal.

Reverting now, in conclusion, to the three historical conceptions of phenomena which we have had before us, we are, I

* *The Principles of Mathematics*, vol. i, p. 450.

† *The Problems of Philosophy*, p. 155.

think, in a position to assert that a fundamental error is committed in all of them,—the error, namely, of placing empirical things and the ways in which empirical things are apprehended upon the same level, as both of them phenomenal in character. One of the main grounds, if not *the* main ground, upon which, in these three systems of thought, empirical things were taken to be phenomena turns out to be that empirical things (if, for the moment, we do not include mental lives under that heading) are in space. According to the Platonic theory, space offered the strongest antithesis imaginable to the reality of the Ideas, and things in space could not but share in the unreality, the shadowy character, attaching to space itself. According to the Kantian theory, space was essentially a form of perception, and things in space could not but participate in the subjectivity which must be assigned to a form of perception. According to the Hegelian theory, space is a partial and imperfect manifestation of what in truth is non-spatial, and things in space could not but exhibit a like incompleteness and imperfection. Now, the fact that things are in space has, as I have tried to show, a very important bearing upon the ways in which those things appear. But when once the view of the unreality of space, in any of the senses mentioned, has been discarded, when once it is recognised,—as, of course, I should be prepared to argue must be recognised,—that space has a being and reality of its own, the plausibility of the doctrine that empirical things are phenomena, or groups of appearances, vanishes. For it is possible, then, both to conceive of the existence of real things in space, and to understand how those real things may be apprehended in a variety of ways by minds that are subject not only to the manifold conditions of mental growth and development but subject also to the conditions which space imposes, even where apprehension has attained its highest degree of accuracy.

II.—ON FEELING.

By J. A. SMITH.

I PROPOSE in this paper to consider the nature of what we call "Feeling" (or "the Feelings"). It is obvious that in general we use this word very loosely and with little clearness or constancy of meaning, and it seems worth while to see whether our thinking and consequent speaking cannot, by taking thought, be rendered more significant and precise. It is my hope to put forward and establish some definite results concerning the subject.

I can scarcely suppose it to be questioned that our usage is loose, and that this implies some confusion and uncertainty in our thinking. The view cannot be accepted that these defects are found only in popular usage and consciousness; they reappear and embarrass us in professedly scientific works. Nor again are they due to the *patrii sermonis egestas*. It is no special scandal to English psychology that the word is used in a bewildering variety of senses. Endeavours have been made to restrict it, as by Professor Ward, and again to enlarge it, as by Mr. Spencer, who speaks of "a relation" as a feeling, or by Professor James, who would have us say a feeling of *and* or *but* or *by*, where in both cases the proposed usage is repugnant to our sense of fitness. Some psychologists identify "sensation" with "feeling," while others think it all important to distinguish. French and German writers find themselves in the same or like difficulties. In a kind of despair the word has been discredited, and proposals recur for its expulsion from the vocabulary of science, if not of ordinary speech; but no substitute has been found or met with acceptance. All

this points to the fact that the evil lies in our thought and not in our words. And perhaps it is best to face the situation, and continue to use the name, acknowledging that when we use it we are uncertain precisely what we mean, or what precisely is the extent of its proper application, yet with the *proviso* that we mean something by it—something definable—and that we do not intend its application quite illimitably;—to put it otherwise, that in all our uses of it we mean to mean certain existents which in virtue of a common nature or real kinship form *in rerum natura* a closed and self-contained group—only we are unable as yet to formulate their common nature, or determine the limits of their range. Our problem is, taking this as our point of departure, to discover if possible what in both respects we really mean.

Now, somewhat indirectly, science promises us some aid to our task. In place of an express answer, we are frequently offered an account of Feeling which aims at classifying it. Undoubtedly, we are told, Feeling is a sort of “experience” or “psychical fact,” and it is at once distinct from, and related to, certain other sorts of “psychical fact” such as cognition and conation. In fact, there is a fairly general agreement that all psychic facts can be ranged exhaustively under the three heads of Cognition, Conation and Feeling, in the same clear and orderly manner as all triangles can be divided into scalene, equilateral and isosceles. But a little reflexion destroys our first satisfaction with this account, and indeed the agreement is soon seen to be in words only. The genus assigned—whatever it be called, “experience,” “psychic fact,” “consciousness,” “state of consciousness,” etc.—is little better than a *vox nihili*; the number of its species is disputed; and the *differentiæ* between them are left unexpressed and undetermined. The apparent increase of precision is illusory, or maintained only by an arbitrary departure from common usage. In no case does it illuminate what we really mean, nor fulfil

its expected promise of improving our understanding of the facts.

There is in all the dissidence of opinions about Feeling one statement which seems to carry general assent, viz., that whatever it is it is essentially either-pleasant-or-painful, or a mixture of both (although, to be quite accurate, some have asserted the existence of "neutral" Feelings). Accepting this, we may describe Feeling as the missing substantive of the adjectives pleasant or painful (with all their varieties and sub-varieties); it is the x which "has" these as its essential definitory properties just as Number is that which has as its definitory properties Odd or Even. Sometimes we speak of Feeling *plus* the one or the other of these as a Pleasure or a Pain. In such cases, the association of the adjective (or what it means) with the substantive (or what it means) is so close that it seems unnecessary, or even misleading, to distinguish between them; to do so suggests the possible or actual existence of a subject which has neither of the opposed attributes. Still we *do* distinguish, and have names for this *substratum*, in this case Feeling, as in the other case Number. And indeed the same is the case with Judgment, which is essentially either-true-or-false, or Volition, which is essentially either-good-or-bad. Can we then argue back from the essential properties to the nature of the underlying subject? Whether in this way or otherwise, attempts have been made to say *what* it is that is either-pleasant-or-painful. To this question three answers have been vouchsafed, and they have been declared to be the only three possible. The question, you will remember, is, What is it that is essentially either-pleasant-or-painful (the real owner of these adjectives)?

(1) The first is, that it is just "experience," or rather "experience so far as it is undeveloped into cognition or conation," "experience in its first state," or as it is called by some, "in its immediacy." This implies that "experience," as, or

if, it develops, splits into cognitive or conative experience, and in either case ceases to be either pleasant or painful.

(2) The second is that it is "a special mode of mental activity" co-ordinate with cognition and conation, and, it is implied, capable of development on its own lines without turning into either of them. It is not implied that it does or can exist *apart* from them, as clearly in the first case it could do and indeed must have done, though it can also exist along with them.

Observe that these two answers are opposed to one another, the first asserting a difference of degree, the second a difference of kind, between Feeling on the one hand and Cognition and Conation on the other.

(3) The third answer is more difficult and subtle. It asserts that Feeling—the owner of pleasantness or painfulness—is "experience as such," without the qualification of the first view or the *differentia* of the second: all experience, whether undeveloped or developed, cognitive or conative, is essentially pleasant or painful. The elements of experience are themselves experiences, so we may assert this of any "element of, or in, experience." Those who hold this view are fond of speaking of the *tone* of an experience as the subject of pleasantness or painfulness. This leads them further to denying that it is itself an "element" in the experience, *i.e.*, something discoverable by analysis: it is rather something *of*, not *in*, the experience. This is dark enough, but some attempt a further characterisation of it, calling it a "concomitant" or a "differential quality" or a *quale* (Marshall, p. 47) of an experience. This seems to imply that Pleasantness and Painfulness are *qualities* of something which is itself not an experience but a *quale* of an experience, as, *e.g.*, velocity or direction are qualities of movement which is itself a *quale* of bodies.

To our question, What is Feeling, what is the *x* of which Pleasant or Painful is the essential attribute, we have the

answers: (1) x is all or any experience undeveloped, (2) x is a special sort of experience, (3) x is something which, while not an experience, nor an element in it, is an inseparable "concomitant" of it, or, to arrange the answers otherwise, x is either an experience which differs from other experiences, (*a*) in degree, or (*b*) in kind, or (*c*) is not experience at all, but something essentially related to it.

Having condensed these accounts, we may now expand them again into their several details, consequences and implications. But first, it may be pointed out that they all assume that we understand what "experience" is, and can discriminate it from other facts. I do not wish to press difficulties here and am content to enumerate certain real or supposed equivalents of this term, *e.g.*, "psychic fact or datum or element," "psychosis," "consciousness," or "mode or state of consciousness," "life," or "living," or "activity," either with or without the adjectives "psychical," "mental," "conscious," "spiritual," etc.

(i) The first view is that Feeling is "the fundamental or original basis of all psychic life from which other forms arise by development or transformation" (Marshall, p. 36). The distinction between Feeling and such other forms is therefore one of degree of development, and so is a relative distinction; as experience, or any experience, gradually develops it ceases to be Feeling, and becomes either cognitive or conative. Feeling is relatively undeveloped, inexplicit, inexpress, unorganised experience; so far as experience develops or becomes organised it ceases to be either pleasant or painful. Of course unorganised experience may subsist alongside of organised, and so to careless observation the pleasantness or painfulness may seem to transfuse itself through the whole experience which contains both, or may be (erroneously) attached to the organised element or elements, as when we speak of the pleasure of successful action or of learning. This

view fails to commend itself mainly because we cannot accept the implied denial of a development of Feeling which leaves it still Feeling, *i.e.*, an articulation and consequent variegation of Feeling itself, a fact which appears particularly obvious in the case of what we call "æsthetic experience."

We are naturally led from this to

(ii), which recognises the independence or autonomy of Feeling. This, as we have seen, makes Feeling a form of experience co-ordinate with cognition and conation (and possibly others). This view is held to arise naturally from a survey of the facts, and it is made a sort of merit of it that it does not depend upon *a priori* considerations. "The tripartite division is in a peculiar manner the outcome of subjective analysis" (Sully *apud* Marshall, p. 39). Now no one can quarrel with the attempt so to classify mental facts or phenomena, but we must not take it for more than it is worth. It is an artificial classification, which goes by *prima facie* likenesses and unlikenesses, and has exactly the logical status of a classification of books on my shelves according to size or subject or literary form. Its criterion is convenience or usefulness.

The objection *in principle* to it is that it is exposed to the risk of creating a factitious class parallel to, say, *miscellanea*, or the entry "*sundries*" in our household accounts—a pseudo-class whose members have no other connexion than that of *not* being members of any of the other contradistinguished classes. Precisely such seems to be the position of Feeling in such classifications, and we are often told that Feeling "cannot be defined;" it is simply any experience, or element in experience, which cannot be classified as determinately either cognitive or conative. This view, therefore, gives us no positive account of what Feeling is, or what its relations to other forms of experience are, other than that of simple unspecified difference from them. Thus it is said to be characterised by "its lack of objectivity" (of localisation), "of elaboration into perceptions or intuitions of the external" (Marshall, p. 40).

It will be observed that both these views regard relative formlessness as characteristic of Feeling, the one as a constitutive, and the other as a distinguishing, but not essential, attribute of it. The second appears to do more justice to the persistence of Feeling in all actual experiences, and the possibility of a self-contained development of it into forms of some richness, variety, and complexity. It has a great support in such popular distinctions as that between "the heart" and "the head." On the other hand, the status of Feeling is left very precarious: its domain is perpetually encroached upon by transference of its members to the better defined classes of Cognition and Conation, as we come to understand them better, or analyse our instances more closely, and it seems not unnatural to suppose that, if we proceed further in this, we shall eventually be able to analyse it away altogether, exactly as we might do with our entry "Sundries." We seem threatened with the ultimate disappearance from our Psychology of the class of "Feelings."

From the fear of this we are saved by the third view, which frankly throws overboard the contention that Feeling is "an element" in experience at which analysis could arrive, or by which it could be arrested.

(iii) Feelings are not themselves elements in experience, and yet they are not nothing. They are something *of* experience, or in relation to it. But in *what* relation? To this the most guarded answer is "in the relation of *concomitance*"—and indeed, it is added, of universal concomitance. The word "concomitance" is an obscure one, and says no more than that Feelings are found always "along with" the other "elements," but it is added, as before, that they are not themselves elements, or ingredients. The explanation that they are "*qualia*" or "differentiations" scarcely helps us. And a special objection to it is that it makes them too little substantial or substantival. What we call Feelings seem wronged by representing them as mere adjectives of something else,

and we recur even violently to a view or views which regards them as themselves experiences, facts or acts, pieces or fragments of our actual being. We cannot help the conviction that we followed a right impulse in naming them by a noun substantive.

Thus we are driven "from pillar to post"; each view grasped a part of the truth, but only a part; in supplementing it by the omitted part we lost what we had gained and at last came full circle to where we had started. We traversed a round in which we could find no satisfactory halting place. Yet let us enumerate, even if we cannot put together, the separate truths about Feeling which we seem in turn to have descried:

(a) Feeling was relatively formless, undeveloped, unorganised.

(b) Feeling was autonomous and independent, or at least relatively in constitutional opposition to other encroaching autonomies, yet held its ground with a very precarious tenure.

(c) Feeling was a perpetual concomitant of other relatively more substantial forms of spiritual being.

In all these ways Feeling in its character and existence pre-supposes the character and existence of experience or some experience better developed or organised, more autonomous or architectonic, more substantial or substantive, or at least it cannot be conceived of except by contrast with such experience, as *not* being what that experience is or is conceived to be, or as being less what that experience is more.

The word Feeling even in ordinary use is accompanied by some idea of what Feeling is, and it is this idea which we have been trying to bring to light. The result so far has been that this idea is essentially relative, or even negative. "Feeling" means something that is relatively formless, subordinate, insubstantial, nay further, we may say, something that may be called relatively inexperience; it was something neither experience nor within experience; *mere* inexperience or non-

experience it was not. Yet though we hesitate to go so far, we do not hesitate to speak of it as an experience without anything experienced—an objectless and aimless experience, a purely, or almost purely, “subjective” experience.

With this merely negative account we can scarcely be satisfied; it tells us only what Feeling is not, it represents it as a phantom variety of the $\mu\eta\delta\nu$, and, though we cannot deny to this account a sort of terrifying plausibility, our common sense cries out against it, and we react and recoil to its contradictions, doggedly reasserting the determinateness, the independence, and the substantiality of Feeling. In view of this, we must re-examine our results. These were perhaps not so negative as they looked, for they acknowledged the *relative* possession by Feeling of the characters which constituted experience developed (articulate), autonomous, and substantial. Even when we called it “inexperience,” we did not mean, or take ourselves to mean, this *absolutely*. The difference between Feeling and its precise or proximate other was one of quantity or degree. Is this not a simple return to the first view? No, we reply, because what we now mean is a difference in degree of development or perfection, and this leaves room for what the second view insisted on—a difference of kind; indeed, it has the advantage of relating the difference of kind to the difference of amount in a way which is, if not intelligible, at least familiar, and not singular or unique. Development is a process in which differences of kind break out on the basis of increasing difference of amount or degree; it is a process in which real transmutation takes place, and genuine novelties make their appearance. These novelties introduce discontinuities into the process, but we no longer find these as inexplicable inconsistencies; or, so far as we do, we evade or transcend the difficulty by reading them back as determinate potentialities into the previously heterogeneous basis. In the case before us we think of Feeling as through and through undeveloped potentialities of Cognition and Conation. But we are not yet

out of the wood ; if we try to make our thoughts more precise, we cannot regard these potentialities as mere latencies or inactivities ; we must construe them as themselves activities of the same kind as those of the higher level, but less active than their correlative actualities. For to feel, we remind ourselves, is to live, to be doing something, or from it there could be no way to the forms of living which we call Cognition and Conation. And so once more we are back at the view of the development as a magnification, and at the view of Feeling as, so to speak, microscopic or infinitesimal Cognition or Conation. It would appear that Feeling is not heterogeneous with express or explicit experience, but homogeneous, and only because of our deficient analysis or arrested reflexion *apparently* heterogeneous.

Nevertheless, this was not what we meant ; in speaking of development we intended to recognise a genuine outbreak of difference of *kind*, and this implied the entrance upon the scene not merely of novel actualities but of novel potentialities, *conditioned* indeed by the development of pre-existent powers, but not *caused* by them. No expansion of the possibilities latent in Feeling, no reinforcement of its powers could of itself generate Cognition or Conation : *their* undoubted autonomy presupposed an acknowledgment of, and respect for, the more questionable independence of Feeling. We intended all along their several independence as powers as well as, and indeed inseparably from, their mutual interdependence. We cannot refuse a standing to the third view, which in a better way than either of the former asserted the heterogeneity of Feeling. On it Feeling secures a domain for itself, by withdrawing from the claim to co-ordination with the other forms. Retiring from this, it the more firmly establishes its independence ; it no longer competes with them, but secures for itself a realm upon which they cannot encroach ; it no longer claims to be aware of, or to achieve, anything, but is content simply to *be* : it retires into the impregnable fortress of simple existence and

defies its assailants. How often must we listen to the triumphant assertion, "After all, Feelings exist, and you cannot get over that hard, indisputable fact." Yes, it *is* indisputable, and our previous endeavours to understand or explain it look very like indefensible and impossible attempts to explain it *away*—to explain it as an illusory appearance of something *else*, an illusion created by our ignorance or misunderstanding. The protest is just and well founded, and we must own that all our brave words about its formlessness, dependence, insubstantiality, unreality, etc., can only be taken "in a Pickwickian sense," or with the *subintelligitur* that they are not to be taken *absolutely*. We must accept the reminder, and bow our heads to the rebuke.

But let us again take our courage in our hands. What had we been maintaining? This, that what we call Feeling was inexplicit, immediate, undifferentiated experience or, rather, not that *in itself* but that *for us*; in itself we could not but regard it as explicit experience not yet reflected upon or known in its true character. So far as we understood it, or anticipated the understanding of it, we declared it to be that. We did not question its existence, rather we presupposed that in attempting to understand it. "Feeling exists"; certainly, but what is Feeling, *what* exists? And what is its way of existing? That was our question: are we offered any answer to it?

Now it may be retorted that the true and only answer is that there is no answer. We shall see that this "answer" is merely a verbal possibility. Still, it is made, and in forms which ape significance. "Feeling," we are told, is indefinable, inexpressible, ineffable, and the same is often said of "existent"; or, again, it is said that Feeling "can only be felt." If so, it does not appear how the conjunction of these terms in an apparent judgment can be true or false, or have any more meaning than "Boojums gyre and gimple" or "Chimæras bombinate." But, waiving this, we may continue to extract statements of their view from our opponents. Their

position really is, that Feeling means something which is unintelligible, irrational, surd to our understanding (means something unmeaning); nevertheless, they say, it exists and is none the worse for that opposition; it is simple fact, hard, irresistible, not to be juggled with or sublimated into anything intelligible or rational. But, to be fair, we cannot so understand them; they do not mean that Feeling is a mere name for unintelligible or irrational fact as such (if such there be), but for a particular kind of such fact with a particular kind of existence. Feeling they mean is *quid positivum*—it is not merely not-nothing or the not non-existent; it has a being and existence *of its own*. Were it otherwise no further statement could be made about it.

A more subtle version of this contention may be considered. Feeling, it may be said, cannot be positively defined, but it can be discriminated. But, once more, in that case either Feeling is essentially something negative (having no being of its own, or none for us) *or* the discrimination presupposes something positive or positively known (apprehended) in it. It cannot be doubted which of these alternatives will be chosen. There is no escape from the interpretation that to what is called Feeling some positive or determinate being and existence is assigned.

We are within our rights in asking for the meaning both of "Feeling" and of "existent"—as they are meant *in the assertion* "Feeling exists" (not outside of it). Now this statement can be meant in either of two ways—either analytically or synthetically. In the first, to tell us what existence here means is to tell us what Feeling is—it is to define Feeling; in the other, it does not do that but takes for granted that we know *what* Feeling is and tells us something further about it—it *extends* our knowledge of what Feeling is. Otherwise the assertion is unmeaning nonsense—mere *flatus vocis*. And to say "Feeling is felt," if it means no more than that Feeling is Feeling, is idle tautology—a charge from which

escape can be made only by substituting some other word (with a distinct meaning) for the predicate.

We are not left without attempts to meet our demands. Feeling, we are told, "cannot be defined . . . it can only be felt," and "felt" can mean here nothing but "be known, apprehended or perceived" (not understood). Now this might mean (synthetically) "You know what Feeling is, what I mean by Feeling, and I put forward the assertion that it is something which can (only) be apprehended," or it might mean (analytically) "the essence of what I mean by Feeling is to be perceived." But the word "only" reduces the difference between these, for it asserts that the only mode of existence truly attributable to Feeling is that of being perceived. Still let us acknowledge the difference. For "Feeling" to *exist*, or to *be*, is nothing but to be perceived. Let us take the second interpretation first; for Feeling to be is to be perceived, its *esse* is *percipi*. Now, if this were so, it would also be the case that whatever was perceived was Feeling, and this is clearly unacceptable and cannot be meant. The second interpretation distinguishes between its *being* and its *existence*, and saying nothing about its being, predicates of it one sole mode of existence. But in that case, knowing nothing of its being, we cannot judge one way or another of the truth of the predication, and, in fact, when anything has only one mode of existence, its existence and its essence must coincide. But either way the statement is *false*, for in the case of nothing can *esse* be *percipi*. The very meaning of "being perceived" is that what is perceived *is*, and exists independently of its being perceived. The existence may not extend beyond the moment of its being perceived, but in that moment its existence is other than its being perceived. Certainly, if Feeling is *quid positivum*, it is not created by the perceiving of it (which indeed is nonsense). We are entitled to our answer, what Feeling is (apart from its being perceived), or our antagonist must hold his mouth from any assertions about it, for any assertion about it by him to

me presupposes that we both know what is meant by the word.

Very well, it will be conceded, this *is* presupposed; we both do know quite well what each and both mean. Each definitely knows what he means, and also that it is the same as what the other means. But neither of us can define it to the other. And, after all, there is nothing strange or peculiar or unique in this situation. For in all discussion and communication do we not perpetually use words of which the same must be said? Are not all words significant of Locke's "simple ideas" in the same case? We all know what "we" mean by "red" or "hot" or "memory" or "opposite to" or "right and left," etc., although we can define none of them? And so why not admit the same about "Feeling"?

The plea is almost more than plausible. It rests upon the view that what we call Feelings are simple existents, or, in one word, "simples," and that they are, or can be, grouped under the head of Feeling as colours under the head of colour. Though their *esse* is not *percipi* they are *percipibilia* or *percepta*, and it does not matter whether they be regarded as elements in, or as *qualia* of, experience.

This view indeed justifies the way in which the Psychologist takes and deals with them, and we may so far accept the statement that Feelings exist as *præsentata* or, more accurately, *percepta*, and from this we gather that they are not universals and not relations, but unique individual existents—that and no more.

But a Feeling is not just any and every *perceptum* (though this has sometimes been maintained); there are other individual existents which are not Feelings, and we are driven back upon the question of their *differentia* from these. *How* do they differ from other *percepta* or *percipibilia*? The answer seems obvious: they are states of the percipient himself which are other than his perceiving of them. Once more the negative is clear; no feeling is the perception or cognition of itself,

and on the other hand no feeling is the state or *quale* of anything other than what is itself percipient. But the percipient must be alive or living and feels only as living. The word *state* if it means mere quiescence is a blunder; what we mean is an *act* or self-affirmation.

That is its *essence*. What we observe is its *Schein* or rather its *Erscheinung*, and to grasp its essence is, not to perceive it but to think or understand it. At last we seem to have penetrated its guarded secret, and conclude that Feeling, or a Feeling, is a spiritual act or self-position.

But we must be very guarded; while we cleave to this, we must speak by the card, or equivocation will undo us. But in this result we have touched bottom, for we know now what in general Feeling is—we know not its class concept but its true or thought *genus* or, to put it otherwise, we are now viewing it philosophically and not scientifically. And that is why henceforward we cannot be content with a determination of its nature either by instances or by mere opposition and contrast.

It now looks as if we were back in the wood again for this generic nature it shares with Cognition and Conation; they also are spiritual acts or self-positions and, once more, we have to determine its relations to these. But the whole aspect of the case is now altered, for its claim now is to be ranked as a thought along with other thoughts, within a thought which embraces and orders them all, and to vindicate its title we must be able to “deduce” it from the very notion of spiritual life or activity.

I can see no end to our difficulties unless we can clear up what is called “the concept of Mental Activity.” In regard to this I may refer to Professor Stout’s chapter on the subject in his *Analytical Psychology*. I will at present only extract from it a conclusion, unfortunately negative, with which I find myself in agreement, viz., that “there can be no such thing as a purely passive consciousness” (I, p. 168) (“consciousness”

is Professor Stout's word for experience or spiritual life). On p. 173 he begins to consider a view of Mr. Bradley's which he rejects; but, oddly enough (p. 174, top), he supposes himself to have answered Mr. Bradley's question in the purely negative result I have quoted. At least I can trace in what he says no more positive answer.

What Mr. Bradley contends (and this surely is the point) is that the account given by Mr. Stout (of which Mr. Bradley is, so to speak, aware in advance) is "unintelligible." His own "intelligible" account is that activity is the expansion against, or contraction by, the not-self of the self, with the addition that there must be present an idea held against the existing not-self, the idea being that of a change in that not-self. The important point is that activity presupposes or includes an idea of the change effected or to be effected by the expansion, etc. He puts it more simply by saying that "activity has no meaning unless in some sense we suppose an idea of the change." I do not think that I alter this when I paraphrase it by saying that all activity involves a fore-knowledge or pre-consciousness of the change, *i.e.*, the as yet future state of the self and its environment, or, as we may say, the future "situation" of the agent (including himself). Professor Stout accepts this as a true account of "voluntary activity," but refuses it as applying to *all* (psychic) activity, because there is, or may be, involuntary activity—"which does not include the ideal anticipation of a change to be produced."

Again, Mr. Bradley is aware of this difficulty or objection, but contends that the problem is solved by the difference between an idea which is explicit and an idea not explicit. Mr. Bradley, therefore, concludes that all psychic activity is (a) an expansion, or contraction, of the self, over against the not-self, which (b) presupposes an idea, explicit or implicit, of the future result. Clearly (b) is intended as the *differentia* of *psychic* activity.

But, again, we must get rid of the misleading associations

of "idea"; what Mr. Bradley means is an implicit or explicit consciousness of the still future result. Now he cannot by "idea" mean simply an image; indeed, strictly speaking, an image can only be of the past. Such images may play a part in the process, but the fact presupposed is an awareness of the future result, and the irrelevance or dispensability of the image is natural. What he means is that the agent is in some sense aware beforehand of the result of the expansion or contraction. Clearly, also, it is not the result of which he must be aware, but what we may call the intended result (which may even be an impossibility). But whatever it is, it is essentially *future*. But the future is non-existent—at best, a possibility, not an actuality—and I contend that of it no consciousness is possible. Of it there is only a *possible* consciousness, and that clearly cannot be a factor in the activity. Even, therefore, as an account of "voluntary activity," it contains an unintelligibility.

Yet we may learn from this result. Let us hold fast to the axiomatic truth that all (actual) consciousness is of the actual and amend the view to saying that *all* psychic activity presupposes consciousness of the past or present (or of the present as summing up the past, of both the self and the not-self): what it presupposes is consciousness of the agent's present situation.

This surely accords with our first and most natural view, that in opposition to physical change, movement, or activity, psychical activity is essentially preceded and conditioned by knowledge, consciousness, apprehension of a situation. As a situation is always individual this knowledge may be called *perception* of it. And we are quite accustomed to the idea of knowledge, or such knowledge, being at times implicit.

Objection may be made against this as follows. The knowledge or perception is only an external condition of the psychic activity; the psychic activity is, and is what it is, apart from that. In fact, obscure as they are, the words

"expansion of the self against the not-self" already characterise *psychic* activity. Were it otherwise, they would equally apply to physical activity. To this it may be replied that in fact they do so apply; even a stone falls of its own nature, by its own weight, etc. What the objection brings out is the spontaneity or self-determination (self-variation) of all activity, while our whole theory points out that this takes place in "souls" only upon occasion of perception of a situation. So far then our conclusion is that the unit of psychic life is a spontaneous variation of a situation (self + not-self) conditioned, occasioned, stimulated, but not caused by perception of a present situation. Let us for the moment call the activity so generated a Conation, and the correlative Perception its concomitant or proximate condition. We think of the latter as the *given* occasion of the former, but a little reflexion forces us to regard it as *another activity* of the same agent; as a *taking* cognisance or notice of the situation. It, too, is a self-determined self-variation, and it too has its *occasion*. What is *its* occasion? What is here the independent variable of *Perception*? We can scarcely specify anything more definite than the percipient's actual present situation. But clearly my perception has not for its object the whole momentary state of the universe, and to define the situation whose states or changes are the *occasion* of my perception I must ask *what* I do perceive. There is a temptation to say (with Spinoza) the whole condition of the *physical* universe; but, again, this is clearly too much, and we perhaps restrict it to the whole state of our individual body or physical organism. But of that, too, much escapes our perception; we must qualify this by saying, so much of it as we "refer to ourselves." In fact, what we perceive is what we have enacted—our activities in the other sense or, rather, their *results*, or to put it boldly, all our perceptions are *self-perceptions* (of the self, not of themselves).

If this be so, we must conceive the unit of psychic life

thus, viz., as an alliance of two powers, each of which is originative or autonomous, but acts, or can act, only upon occasion of the exercise of the other. We must append to this the explanation that either, in order so to act, must be or become "the concomitant" of the other. This it cannot do when it is in its own way fully explicit: it so acts only when it is, so to speak, depressed to a lower level of itself. It is thus that psychic activity is a succession or alternation—endless both ways—of perception and action, knowing and doing.

This account is quite general or, rather, universal. But here we have to make a distinction which is far more than merely empirical. We have been using "Perception" of the cognition involved in all psychic activity, and there may be no other (for we are not confining ourselves to what we call *par excellence* Voluntary activity), but we have given no name to the correspondent Conation, and we must now try to particularise this also.

Why did we speak of Perception? Because the cognition was of the individual, the unique or non-recurrent, and we contrasted it with Conception, which was of the universal. This latter we left out because we supposed (possibly wrongly or hastily) that the cognition of it had no influence on, and could not act as a stimulus or occasion of self-varying action. It seems even more obvious that the activity it excites or stimulates is the acting or enactment of the individual, and we must invent a name to distinguish this from a real or supposed enacting of the universal. Assuming that both sorts of Action are possible, I name the one Economic, and the other Ethical, Action.

We have thus by hypothesis two sorts of psychic activity, (1) Economic action stimulated and occasioned by Perception of a unique individual situation, and (2) Ethical action stimulated and occasioned by Conception (conceptual apprehension of real universals). It is important to observe that while (1) can exist without (2), the converse is not possible, though, once (2) exists,

(1) is no longer possible. Not forgetting this, we may isolate (1), as in fact it is isolated for us in the animals and in early or artificially abstracted experiences of our own.

Psychic activity, therefore, exists where economic action (which as yet means individual alterations of individual situations) is occasioned or stimulated by individual perceptions of such individual situations, and such appears to be its whole real and intelligible nature—*what* it is, what we mean by it. This also must be what it means, when we assert it to be the *genus* of Feeling, or such Feeling as can occur in experiences of the kind, or at the level, described.

But with this result we are at once aware of a discontent or disagreement. According to it, Pleasure or Pain must be essentially either (*a*) a perception of a situation, perhaps very dim, but still a perception, or (*b*) a conation or enactment, perhaps very feeble, ineffective or “tentative,” but still a conation, or (*c*) a very minute or microscopic couple of the two—most probably the last. And we can accept none of these views; we go back to the old doctrines that it is something *else*, either (1) in experience, and there either outside the couple or between its terms, or (2) *not* in experience, but a third “concomitant” of it. To embrace the second alternative is to deny it to be a *datum* of experience at all, and to return upon our assertion that it is a form of psychic activity or life (the nature of which we now know or understand). Recognising that it is possible that we may have to reconsider this view too we at present consider the contention that it is a *datum* of experience, an item of psychic activity, and indeed an element in it. We have to ask ourselves how it enters into that.

Let us recall our result that psychic life is an endless cyclical alternation of perceptions of varying individual situations, preceded and succeeded by individual enactments of varying individual changes, and we have to seek the place of feeling *in between* the cognitive and the conative terms or *vice*

versâ. Here we are offered two alternatives; (1) that the Feelings immediately follow the conations or ὁρέξεις, and together with *their* results constitute the situation perceived or cognised, and (2) that they immediately follow upon the perception and are part of the occasion or stimulus of the conation (or, it may be that there are two kinds and places of Feelings). Often these are combined; the animal, it is said, acts (alters its situation, no matter how or why), it finds (*i.e.*, comes to perceive) pleasure in its acting, and this occasions a repetition of the act. It is clear that on this view (1) is more primitive and fundamental than (2), for according to (1) Feeling is contemporaneous with the activity and is only later cognised.

If we accept both, we represent life, or our life, as a cyclical alternation of *three* heterogeneous modes of itself in the eternally fixed order—Perception—Feeling—(Economic) Conation—Feeling—Perception, etc. But it now appears that we have lost the unity which is verbally expressed by calling them all modes of one and the same thing. We have placed each outside the others, and asserted that in perceiving and acting we are not feeling, *i.e.*, are not pleased or pained. This we cannot help suspecting to be an error. The experiencing self in all its experiences remains one and does not so distribute its modes in a temporal cycle of differently dated phases. We are therefore driven back to the view that the experiencing self *always* experiences in its three modes at once. In any one moment the distinctions co-exist. The difference between one moment and another of its historic existence can only depend upon the several amounts or degrees of its distinct modes. But the modes are modes of one and the same thing and therefore the different degrees of the modes must be different degrees of one and the same thing, *viz.*, experience. It follows that every state of an experient contains at one and the same time distinct experiences differing from one another only in degree, which to our purblind vision

appear *prima facie* as differences of kind. The differences of degree are not merely quantitative, still less numerable; they are differences in degree of perfection. If this is correct, "Feeling" differs from Perception and Economic Conation, and they from one another, only in degree of perfection,

We can now afford to return behind the distinctions between Perception and Conception, and between Economic and Ethical Conation. Perception, let us now say, is only low-grade Conception, Economic only low-grade Ethical Conation, or rather what we were contrasting now seem to be low grade as opposed to high grade Judgment (Cognition) and Action (Conation), the members of which pair are again contrasted as low-grade and high-grade experience. Which is which we need not here attempt to determine, and perhaps we should not have prejudged the question of relative rank between any contrasted members of a pair and so not between Feeling and either Cognition or Conation. All we are entitled to say is that the difference must be one of degree of perfection and that alone.

Let us try to follow this out. When we call any experience Feeling we are always contrasting with it another experience, actual or possible, which is not Feeling, because it is either more or less perfectly experience. But which is which? Now there is a considerable body of philosophical opinion which holds that what we call Feeling is so called because it is *less* perfect, an inferiority which they express by calling it (relatively) formless, unorganised, confused, restless, aimless, objectless, etc., etc. But on the other hand there is considerable authority the other way as *e.g.* that of Mr. Bradley, who holds that as experience progresses towards perfection it transcends relations and reaches a totality which, if not Feeling, is prefigured in Feeling, *i.e.* has a character which Feeling has, and Thought and Action have not. Of course I do not for a moment attribute to Mr. Bradley the view that in this or that feeling the character is to be found absolutely. Still it is some adumbration of this perfection in an experience

which induces us to call it specially Feeling. Nor would I venture to ascribe even this to Mr. Bradley did I not think it in the sense in which I suppose him to mean it, a profound and important truth. Behind it lies a great mass of testimony philosophic and otherwise.

On the question of the relation of rank among experiences of Feeling and what is not Feeling we are faced with contradictory opinions; according to some it is always the relatively lower, according to others always the relatively higher.

Out of this contradiction there seems an easy way. The distinction between grades of experience is always, we might say, relative, and therefore every experience is Feeling relatively to a higher or lower experience, actual and possible, non-Feeling relatively to a lower or higher, *i.e.* experience is always Feeling higher or lower (we need not decide) according as the experience itself is higher or lower. Let Feeling be our name for experience itself considered in respect of its degree of perfection. And let us boldly identify higher Feeling with more pleasant and lower Feeling with less pleasant Feeling—"pleasantness" being our name for the quality of Feeling when it is at its highest and best.

Before I attempt to justify this—and I admit its paradoxical character—I should like to point out that the doctrine in this form has very great philosophical support. How often has it been argued that Pleasure is just the sense (*i.e.*, the experience) of higher, or simply more, life, and Unpleasure or Pain the sense (*i.e.*, the experience) of lower or less life, life disorganised, thwarted, embarrassed, etc., etc.

Yes, but, it will be replied, that is a theory of the difference between Pleasure and Pain in Feeling, not between Feeling and non-Feeling, and you cannot identify your distinction and theory with theirs unless you identify Pleasure with Feeling as such, and Pain with non-Feeling as such, which is absurd. With this criticism I agree, but this is just what I propose to do—declaring the absurdity to be only superficial. My

suggestion, precisely, is that *all* experience, so far forth as it is experience, or in proportion to its perfection as experience, is Feeling and *therefore* Pleasant Feeling or Pleasure. And, conversely, that so far as any experience is short of perfect experience, it is by comparison non-Feeling and *therefore* unpleasant Feeling or Pain. This involves the paradox that Pleasure *is* Feeling, and Pain not Feeling but its opposite, and that therefore Pain has, as compared with Pleasure, only a secondary or borrowed existence. It exists only in so far as non-experience or inexperience can be said to exist. Pleasure is positive, Pain negative, a contrast or shadow effect. Or, as I should prefer to put it, Pleasure *is*, and *is* something, while Pain is not, or is nothing.

I know full well the argument that will be advanced against me. It has been, I feel sure, present in your minds all along. "Pain," you will say, "is real, indubitably real, perhaps the most indubitable of all realities; it is just because of that that we have viewed with amusement or resentment your efforts to belittle the reality of Feeling. Pleasure we might grant to you, is fugitive, illusory, unsubstantial, the object of a search which never has succeeded, perhaps never can succeed. Call *it* unreal if you will, but Pain—to deny its reality is monstrous! We are not Pessimists, but compared with your 'Christian Science,' give us Pessimism: it is at least not such utter nonsense, flying in the face of all Fact and History and Experience! If there is no pleasant feeling, there is at least unpleasant feeling, and so Feeling, and it is ridiculous to ask us to hold that a toothache is simply a specially clear or a specially obscure cognition (we really don't know which you mean), or a specially ineffective or a specially effective conation (again we repeat we don't know which you mean); in any case it is plain nonsense."

May I plead for a little patience? May I even ask, what you mean by your reiterated predicate "real"? What is your test or tests of "reality"? Oh, you will reply, take any test you

will ; the reality of Pain will (alas !) emerge triumphant from the trial. I am not so sure, and I am a little comforted by the great authorities behind me, who have dwelt on the "unreality" of Pain (and the greater "reality" of Pleasure); yes, and on the "unreality" of Feeling altogether. There have certainly been those who have felt a difficulty about the eternity of Feeling, and even about the eternity of Pleasure, have thought the one and the other incompatible with a perfect experience, and have undoubtedly denied the compatibility of Pain with such experience, who have thought of Pain as a vanishing element in experience, and have added the same (more hesitatingly) about Pleasure and so about Feeling altogether. Then you cannot ignore, even if you ignore me.

You insist upon taking Pain as an indubitable typical instance of Feeling and (rather more grudgingly) include Pleasure, or at least the more palpable or grosser forms of it ; the higher you go, the more doubtful you become. To you therefore Feeling means above all Pain ; in Pain what you mean by Feeling reveals its true nature, there it is most what it is. What then, let me ask you, *is* it ? I think you will answer, it *is* something essentially indefinable, incomprehensible, ineffable. And it is this I-know-not-what which you declare to be "real" ! Its incomprehensibility *is* its reality, or, if not that, the *test* of it. So your principle is that what is incomprehensible, that is, and *eo ipso*, the real. Pardon me if I hesitate to share your metaphysics with its central dogma "what is irrational is real, and what is real is irrational."

This is the ultimate reason why we differ about the reality of Pain and Feeling, viz., because we differ about the meaning of "reality," I holding that the rational is the real and the real the rational, so that I must hold that, if Pain or Feeling is, as you say it is, the irrational, it must also be unreal or the unreal, and that, in the measure in which it is irrational, it is also unreal. I must explain that I do not in this take myself

to be assigning an eccentric or arbitrary meaning to the word "real"; I take myself to be expounding what its real meaning is, what we all mean, or mean to mean, when we predicate it. And by "rational" I mean what we all mean, or mean to mean, by it, viz., the constitutive character of experience, what makes it experience, or (what is the same thing) what if wholly present would make it perfect experience. For that only is real.

The question then between us, when we enquire as to the reality of Feeling or Pleasure or Pain, is as to whether in conceiving a perfect experience, or experience *überhaupt*, we must or must not regard it as throughout and wholly feeling or pleasant feeling or painful feeling.

No, you will retort, that is not the question. The question, at most, is rather this: given an experience which is throughout and as a whole perfect or rational, can there be *contained* in it untransmuted what we call Feeling, Pleasure, or Pain? To which I answer: Yes, not only "can" but "must." Does not that then imply that they are all three "real"? Again I reply, "Yes," but *distinguo*; the word "real" has now assumed a modified and relative meaning, which includes a modified and relative unreality. In this sense I acknowledge the "reality" of all three, but it carries with it the necessity of acknowledging a superior reality in Pleasure over Pain, and a return to my paradox that Pain is real only as an element in what as a whole is Pleasure, and that if Pleasure is Feeling, Pain is non-Feeling within it, just as Feeling, which is Pleasant or Painful, is ignorance within knowledge, and inactivity within activity. So far as within the whole they contrast with some other element which has more of the character of the whole, Feeling is error and obstruction, and unpleasure is pain, *i.e.*, error and defeat. If the whole is experience, they are non-experience or inexperience; if the whole is spiritual, they are non-spiritual, or material and "natural"; if the whole is meaning, they are meaningless or brute fact; if the whole is

being, they are non-being or nullities (bare existents). Thus Feeling in your sense is what just exists and *is*—nothing at all: or, if you please, it is the *ὄνομα οὐκ ὄνομα* for what is the minimum of experience, experience which is just-not non-experience, the imaginary atoms of the spiritual world, shapeless, structureless, without quantity or quality, the uncategorised and uncategorisable. And of these you would form a Class, and attempt to define the constitutive and intelligible character! In a word, they are the psychological or psychical “things-in-themselves,” the terms of spiritual relation, stripped of all relations within and without, the infinitely manifold individuals of that world-wide domain, immediate and absolute—and so indefinable and unintelligible. If this is correct, we may still permit to the Psychologist the use of the term “Feeling” as a “heading,” but we must deny it to be the name of a philosophical Category or Conception.

III.—WILLIAM OF OCKHAM ON UNIVERSALS.

By C. DELISLE BURNS.

THE problem of the reality of universals and particulars is not purely mediæval, and therefore I shall not treat it as of only historical interest. For the difficulties which were once faced by William of Ockham still need discussion; and I propose not to offer a commentary upon his doctrine, but to state the problem and its solution in those simpler forms which may show what is essential, and to put aside later complications. For the historian it may be of interest to discover all that Ockham said; for the philosopher only what is true is important.*

The problem arises in the perception that we do not quite know what we mean when we say that two things are similar. Should we neglect the fact that there are two things and concentrate our attention upon the similarity, or should we put aside the similarity and attend first to the separateness of the things? Bergson, for example, seems to argue that, because we cannot draw a line between a state of anger and an immediately subsequent state of pleasure, we can afford to neglect the fact that anger is one thing and pleasure another. Various forms of modern Idealism seem to imply that what is real is ultimately and most truly one and indivisible. The particular and the distinct should therefore have no reality except the conventional reality given it by our need for action or the unfortunate limitations of "finite"

* In what follows I neglect the historians of philosophy, who seem to me to have all copied either Prantl or Hauréau. The sources I use are the texts of the *Logic* and the *Commentary on the Sentences* of Ockham himself.

mind. In saying that there are a number of irreducible real things we are mistaken, or at any rate deficient in our knowledge (or intuition) of fact.

But this is simply to adopt the solution offered by all mediæval Realism* in its moderate form, as in Thomas Aquinas and Duns Scotus. It must mean that particulars are to be explained finally in terms of universals; or at least that the individual is regarded as a difficulty remaining over to be explained after we have grasped the real nature of the whole. And it was to destroy precisely this form of philosophy that Ockham laboured. There are obvious likenesses between Ockham and Hume, since both attack the "reality of Universals," which implied the neglect of particulars as ultimate facts; and it might, I think, be shown that the Idealist Systems of the continent were survivals of mediæval Realism never quite able to resist the criticism of Ockham's Terminism or Hume's Conceptualism. In any case the interest of the position as Ockham found it is in that it was practically the same as that which we find to-day in surviving Idealism.

I propose to show (A) what Realism was and (B) how Ockham established in its place, for a time, a Nominalism or Conceptualism, asserting the irreducible reality of particulars. But since Ockham never pressed his own theory far enough, I propose also to show (C) how there may be a third position, not "Realistic Idealism" nor Conceptualism, but one which asserts the reality of both particulars and universals. I mean that it is not necessary to imply that either particulars or universals are deficient in reality; for even the mediæval Realist could not avoid implying the irreducible reality of particulars, and even the Conceptualist could not avoid implying the objective existence of universals.

* I shall use the word Realism in what follows to mean the doctrine that universals are the fundamental realities and particulars are derivative.

The position in the fourteenth century when Ockham began to teach must first be explained. It is not very different from our position now, although philosophers then were more logical and less metaphorical in their language.

A.

I shall state the Realism of Thomas and Scotus.

1. The likenesses between things are obviously real—that is to say, there is a reason, not our own will, for our saying that Socrates is *like* Plato, or *like* a monkey. Socrates is a man and also an animal. We have before our eyes various objects, as we call them, and we find them to be related in this way. Clearly it makes no difference whether or not we classify, since the ground of the classification is not made by us: and it would be false to say that Socrates is a “tree.” There is a likeness between Socrates and Plato which does not hold between Socrates and a green-leaved acorn-bearing object, usually called an oak. These likenesses are called universals: and it is to these first that I apply the term although “universal” is sometimes used of the Platonic “idea” (*v. sub* B 5). The universal was originally (before Abelard) separate from the particular, but it now seemed to be in the particular as a constituent element of “the object.”

2. Next it is clear that one classification includes others as the first classification includes individuals. So that we may assert truly that manhood is “like” monkeyhood in so far as all men are animals. The likeness between likenesses is also real, and our words or concepts are not without a basis in facts independent of our will. We do not depart any further from experienced fact when we refer to the likenesses between likenesses or the “higher” classifications. Abstraction, as Thomas and Scotus knew, is not a departure from fact; it is attention to facts of a different kind from those of sense-perception.

3. We notice, however, that the “higher” classifications

seem to relate one particular object to a greater number of other particulars. There is, as it were, a "deeper" connection binding together "Socrates" and the "tree" than that binding Socrates and the monkey, in so far as "living thing" is a *higher* class than animal. As in all science we know more of facts the more facts we subsume under one law.

4. But of all classifications that which is highest is what we refer to when we say "real." Socrates is "real" and so is the tree and also the stone. There is a ground here too for distinguishing Socrates from a chimæra: and yet we admit that the distinction is purely conventional, since "nothing" cannot be regarded as one element in any division. Such, as in Descartes and Spinoza, was the position in Thomas and Scotus: and the tendency to Monism was only avoided through the fear of pantheism.

5. So much all scholastic agreed upon; and since the days of Abelard it was admitted that these likenesses do not exist separately (*a parte rei*) from the particulars. Universals, as it was said, are "in" things. They are "in" particulars almost, to force an unconscious metaphor into logic, as if the particulars were *made up of* universals. In "Socrates is a man" or "Socrates is white" the real object (subject*) Socrates is regarded as a composite, and the whiteness is regarded as one element in the composite. Thus while preserving a special individuality (see below) the object Socrates was a complex of real universals. The relations of likeness between Socrates and other objects actually *made up* the complex Socrates.

6. In this Thomas agreed with Scotus and both set out to show that the "deeper" the likeness, or the higher the classification, the more completely the knowledge of it gave one the knowledge of the world. Scotus was more mistaken than Thomas, since he seems to have supposed that a knowledge of

* It is sufficiently well known that what we call objective was in the Mediæval philosophy called subjective. In what follows, however, I shall use objective and subjective in their *modern* meanings.

the higher classification gave one a knowledge of the lower and hence all knowledge of the universe could be derived from a logical examination of the meaning of the highest classification "Reality." Both, however, imply that the higher goes to the make of or constitutes, by an addition of "difference," the lower reality. And even Scotus believed that knowledge of the *individual* was contingent or empirical, though knowledge of one (lower) class might be deduced from knowledge of a higher class.

7. From this it followed that the individual must be explained by some special method. Manhood and animality were both universals or likenesses existing in many; but what made Socrates different from Plato? Socrates was like Plato in everything but—what? Whatever it was, it was the ultimate "difference." No "difference" could be found within the object Socrates dividing him into lower species. Hence arose the theory of the "*principium individuationis*." What made Socrates differ from Plato was *individuality* or whatever made him individual. But Socrates and Plato we suppose are each a composite "made up," we may say inexactly, of animality and manhood and other universals and *also of the principium individuationis*, "*contrahens hanc naturam ad singularitatem*." This was *not* simply a relation; this, at least, in the complex Socrates was not a likeness, nor was it the *same* as anything outside that complex. So that, it seems, there must be something "in" Socrates which is not affected by relation to anything else.

As to the nature of this, Thomas differed from Scotus; and there were apparently disagreements among Scotists and Thomists; but the important point is this—until Ockham's time all philosophers were searching for an *explanation of the particular*. The universal was real, as we should say "objective," one in many, and so on: and so also the particular was real, but it had to be explained with reference to the universal and not the universal with reference to it. The Realists of

the fourteenth century did not make the particular *less* real than the universal; but they regarded individuality as a kind of universality, if we may so speak: for the principle of individuation in Socrates is somehow "like" that in Plato and is thus a universal.

Now precisely the opposite was the attitude of such a thinker as Hume. To him the particular and individual is the fundamentally real, and the universal is the problem to be explained. The change was first effected by Ockham. "Non est quærenda," he says, "aliqua causa individuationis . . . sed magis esset quærenda causa quomodo possibile est aliquid commune et universale."

B.

I have now to explain his position.

1. The universe of experience gives us particular things or objects. In this Ockham agreed with Scotus, his master, since Scotus had taught that the first datum (*primum intelligibile*) is the confused but single individual entity, from which we then "abstract" the universal. This is in opposition to Thomas, who asserted that the first datum is the general and most inclusive universal "being" or reality which we confusedly observe around us. But the merely psychological question as to what is first perceived need not detain us. At any rate we are aware of *particulars*.

2. We are also aware of likenesses between particulars, but only after a process of thought. It does not follow that we construct that likeness of our own will: there must be something "in" the things which are like—some likeness which, however late we discover it, is just as *real* as the individual differences. This Ockham never denies. The universal is not a mere "vox" or "nomen" or "flatus vocis," although our knowledge of it depends on our abstracting from particulars. But whereas Thomas and Scotus are naïve in their Realism and regard the process of abstraction as making no difference to

the objects known *through* abstraction, Ockham perceives that the method by which we know must make a difference in the object known (*vide sub* No. 4). At least, the nature of the object known varies as the nature of the knowledge.

3. As to the existence of likenesses all are agreed; but now Ockham says the universal is *not a substance*. And here he seems to explain himself as Hume would. He says that the universal is an "intentio mentis." He seems to argue that everything which is not a substance must be an "intentio mentis"; since substance means anything which is objectively and fundamentally *real*. By fundamentally I mean *both* that it depends on nothing else for its reality (as "quality" does) *and* that it cannot be reduced to anything else.

It was easy to prove that IF Socrates and Plato are made up of one or many universals *and* an individual difference, no such universal exists at all—that "man" is a word for just nothing at all objective. The "real" Socrates and Plato are just these differences.

Observe that we must suppose, in order to make Ockham's arguments effective, that when we say "Socrates is a man" or "Socrates is white" we mean that there is a single composite "Socrates," in which we may find now "manhood" and now "whiteness." Such consciously was Scotus' position, and such unconsciously is the position of all who, like M. Bergson, made the individual "really" consist of an underlying flux or unity. So that Hume's argument against real universals holds, as Ockham's does, against all reduction of the many to an ultimate unity, unless (as under C 1, *vide sub*) no particular is recognised at all. Scotus and Thomas, however, give Ockham his ground for objection in retaining "individual difference." He therefore argues thus:—

The manhood of Socrates is either the same as the manhood of Plato or it is different.

α. If it is different then it is a particular.

β. If it is the same then why do we distinguish the two?

The reply of the Scotists is that the universal "manhood," common to both, is divided, concreted (*contractum*), by the individual differences. But if these individual differences are not intrinsic to or do not make up the universal "manhood," they cannot affect its nature and it remains undivided; and if they are intrinsic to the universal then once again the so-called universal is simply the particular.

Therefore individuality does not come from anything added to or divisible from the real universal. Everything which exists is singular ("*Tenendum quod quaelibet res imaginabilis existens per se, sine omni addito, est res singularis et una numero; ita quod nulla res imaginabilis est per aliquod additum sibi singularis sed illa est passio insequens immediate omnem rem, quia omnis res per se vel est eadem vel diversa ab alia.*" *Super art. vet. in proem. libri Predicab.*) And at least it is true that in introducing individual differences you have admitted the existence of a fact irreducible to terms of universals. "If the universal is a substance then no individual can come into existence, because the universal which is in it was already real in another: no individual can be annihilated, since in destroying the essence of this individual that universal which is in it *and in others* would have to be destroyed." (*Logic*, I, xv.) And in the same chapter Ockham recites other arguments.

3. But clearly things are *like* one another. The "same thing" of common sense is in one aspect singular and in another universal: but the intellect cannot *make* things the same which are of their nature singular and distinct. Even if, as Ockham and his opponents seem to suppose, the "subject" Socrates is made up of the predicates "manhood," etc., and that which is (objectively) real outside the mind is a particular; nevertheless the universal exists objectively in some sort of way. ("*Nihil est universale in natura sua sed tantum ex institutione . . . haec opinio non videtur vera.*" In I. Sent., II, 8.)

In what way? Two opinions are possible, says Ockham. First the nature of the universal may be to be thought, its whole "esse" is "intelligi." It is in fact simply a concept. The word "man" refers *not* to an external reality, but to the *one* thought which we use in referring to *many* particulars.

It is clear however that we have some ground outside the mind (or our own will) for referring to many particulars by one concept; so that this opinion becomes another and more intricate one.

We say now therefore that the universal is a "qualitas mentis"; that is to say when we say "man" we refer not merely to an action of our own mind, an act of cognition, but to a relation existing between several things and the one mind.

The universal is still a concept or an idea in the sense in which Hume sometimes uses the word; but it is not merely conventional or an arbitrary imagination. Two things go to making it—first the thinker's action in thinking and, secondly, the external objects which are individuals.

There remains the difficulty, against which Ockham and Hume did not guard themselves, that no explanation has been given why *these* individuals should be in this relation to the mind and not others. Even if we call trees by the same name because their relation to the mind is the same, we have not escaped from the objective universal, since there must be some ground "in" certain objects for our calling them trees and not men.

"No universal," Ockham says, "is a substance in whatever way it be considered; but every universal is an intention of the mind (*intentio mentis*) which, according to a probable opinion, is not distinct from the act of understanding" (*Logic*, I, xv, *fine*). Thus he is certain that the universal is not a substance and that it is a conceptual object, as we should say, but he thinks it probable that the conceptual object is the act of thinking.

4. How do we know these objects if our self enters into the constitution of a universal in a way in which it does not

affect the particular? Here Ockham is beginning to found all that Criticism of Mental Process which, elaborated in Hume, corrupted the original purity of Kant's dogmatism. To Ockham it seemed that we know particulars by "*notitia intuitiva*" and we know universals by "*notitia abstractiva*"; but more of self seemed to enter into "*abstraction*" than into "*perception*" (*intuitio*). The object of abstract knowledge (*conception*) seemed therefore to be more *constructed* than the object of perception. And if pressed to its logical issue, Ockham's language means that the objects of conception (universals) are the result of a contact between the objects of perception and a thinker (subject), so that one may explain the whole nature of the universal in terms of thinking subjects and objects of sense perception—precisely the doctrine of Hume and of Kant in his logical moments. Ockham does not seem to see that every objection against the subjectivity of conception will hold against the subjectivity of perception.*

5. Ockham is, of course, puzzled that we should, when we define "man," refer to something which is confessedly not in the world of objects. In fact not only do we seem to extract from the particulars an object which is found with them, but we go farther and speak of an ideal or hypothetical perfect specimen which we do not pretend ever to have found. Thus when I say whiteness I *may* refer only to the likeness between a table-cloth and a piece of paper: but I *may* refer to an ideal whiteness which neither the table-cloth nor the piece of paper exhibits. I should distinguish therefore between the likeness (the Aristotelian "*universal*") and the ideal (the Platonic "*idea*"):† but if I confuse them as Thomas, Scotus, Ockham and more modern thinkers have done, then the "*universal*" suffers from the defect in objective reality which is natural to

* The reference here is to *Quodlibeta*, V, q. V.

† The contrast is, I confess, arbitrary since Plato sometimes supposes his "*idea*" to be *in* the things, and Aristotle sometimes supposes his universal "*form*" to be the perfect specimen.

the ideal. It is the *likeness* that we find among objects, not the ideal. It is the ideal we construct (by "intentio mentis," etc.) and not the likeness. Thus when I argue that Ockham should have gone farther in allowing objective existence to the universal I must not be understood to oppose his denial of objective existence (reality) to the ideal. His arguments against objective reality of the Platonic idea, the ideal of pure science, are perfectly valid. These clearly are hypothetical constructions ("intentiones mentis"), not fictitious as the chimæra is, and yet not objective as likenesses are.

In summary form, then, and from Ockham's point of view, the position is as follows. We seem to be aware of particular things and likenesses between them. The attempt to show that the particulars are constituted by what makes them like or to say that because they are alike there is some common stuff in each, might destroy the particulars altogether. But to this, since it was not a philosophical position in his day, Ockham only makes the slightest reference. And if you retain the "principle of individuation" and say that things are distinct although made of the same stuff, you make the universal particular, or rather destroy the possibility of any universal.

The attempt to explain what appears to be a fact may lead us to assert that no such fact exists. Appearances may be deceptive. But if for this purpose we have to suppose the appearances to be our only guide, our conclusion is obviously worthless. And this indeed is what Scotus has done: for his use of the existence of likeness or similarity between two things would show that either there are not two things or else there is no similarity. Such is Ockham's argument: for, of course, he is not merely saying that the doctrines of Scotus, who, he says, is "*judicii subtilitate omnium primus*," disagree with his, but that the Realist doctrine is inconsistent with itself.

The only solution possible is that the particular exists in one way and the universal in another—the particular "in re,"

the universal "in mente." And if "in re" means in time and space, then the value of the solution depends on the meaning of "in mente." I think we may consider that Ockham means "conceptually," since he certainly does *not* mean that the universal is an arbitrary classification, subjectively in existence. He does seem to mean that without the mind there would be no ideal (Platonic idea) existing as we conceive it to exist as a sort of goal or model; but he does not mean that without the mind there would be no likeness. Likeness therefore is explained by reference to a kind of reality which as conceived by me is a sort of goal or model. It is "that to which the mind points" ("intentio mentis").

Now I do not deny that Ockham, like others after him, thought "in mente" implied a more shadowy existence than "in re." And wherever a distinction is introduced between conceptual and perceptual or other such terms, an illegitimate ethical valuation tends to be made. One is in no way better or more valuable than the other. Kant, whose Scottish moralising survived even his overdose of mathematical scepticism, is one of the examples of the unreasonable tendency to abuse the perceptual because it is not the conceptual. Ockham almost does the opposite.

6. But after stating his position Ockham has to reply to certain objections. "Since the solution of doubts," he writes, "is the manifesting of the truth, some objections concerning what we have said must now be stated and solved" (*Logic*, I, xvii). In the first place, is it Socrates that is like Plato if the universal is not "in re"? Does it not seem necessary to say that the same object is like and unlike, so that there is humanity in Socrates (and something else) and humanity in Plato (and something else)? But Ockham will not allow that "in" Socrates is an objective or substantial universal. There is only "one thing" there, and it differs numerically (numero) from the one thing Plato: but it, the same "it," is specifically like Plato ("Eadem re sunt similes specifice et

differunt numero”), and “there is no opposition between specific likeness and numerical difference.” Although this does indeed assert as the fundamental nature of the particular *numerical difference*, it does not explain the nature of the universal: and I think that Ockham could not effectively reply to the difficulty urged against him because he had not grasped the relation of the particular to the universal. He sees that the facts of experience necessitate the supposition of (1) particulars differing *numerically* and not as collections of different qualities, and (2) likenesses implying the existence of some sort of reality which is different from the reality of the particulars. He is too good a logician to say that the same thing is both one and many at the same time, and yet he does not see how the unique thing may have the same relation as any other unique thing to a third reality which is not in any sense a constituent of either. But whatever his deficiency in conceiving the universal he is perfectly clear that *numerical difference* is the essence of the particular. “Whatever exists outside the mind is itself single, so that IT, without anything added, is what is immediately referred to in the reference to the individual (“denominatur ab intentione singulari”).” * And again “all real unity is numerical; all real diversity is numerical; so that even specific difference is numerical. . . . Hence numerical diversity is more important than specific or generic diversity, because it follows that if things are diverse in genus or species they are therefore diverse in number but not conversely.” † And again, “things which differ in genus and species do not differ in reality (a parte rei) but in the bare negation of one by other, whether this be mediate or immediate.” ‡ Thus also (in the same question) “hoc album” and “illud album” are said to be real but not “albedo.” That is to say, the particular is not a

* In I Sent., q. VI, A.E.

† *Ibidem*, AU.

‡ *Ibidem*, AU.

collection of likenesses to which is superadded a something called difference, and we cannot fairly speak of the universal being "in" the particular: for the particular is the numerically distinct having this or that relation of likeness. The chief argument is that when Socrates and Plato are alike we do not distinguish them by searching for some quality which one possesses and the other does not. Indeed even in such a search the distinction of the one from the other would be already accepted, which is nothing but numerical difference: and, as a matter of fact, we do distinguish things "exactly alike." The humanity "in" Socrates is distinct in some sort of sense from the humanity "in" Plato and yet is exactly alike. The word not clearly understood in such sentences is the word "in." Ockham indeed denies that there is anything "in" Socrates, since to say so would imply a false Realism. The subject of the Sentence "Socrates is white" is thus a kind of unique reality, numerically one, which could never be used as a predicate.

Thus Ockham seems to have developed very clearly the concept of the particular; but of the universal he seems to speak chiefly in negative terms. There may therefore be some truth in saying that he was as limited on one side as Scotus was on the other, or that he held universals to be what Hume would call "abstract ideas": but I think that the historians of Philosophy have generally misunderstood his position in (1) not grasping the importance he gives to numerical difference and in (2) not allowing for his careful assertion that universals although not "in re" have nevertheless an "objective" existence.

C.

I now propose to show how a third position is necessary, not that of Scotus nor that of Ockham. Ockham and his opponents held that in the meaning of the sentence "Socrates is white," the whiteness is part of the subject Socrates; and thus Scotus

tried to read Socrates in terms of whiteness, etc., and Ockham tried to read whiteness, etc., in terms of Socrates. In other words, Scotus regarded the predicate, "whiteness," as *part of* the subject, "Socrates," but avoided the statement that Socrates is *only* a collection of qualities by saying that there was an "ultima entitas" superadded to the collection to make the individual. This, though inexact, practically amounts to the admission of an irreducible kind of reality, a particular. Ockham, on the other hand, regarded the individual subject Socrates as objective fact and, seeing that it did not *consist of* qualities, supposed the likenesses between Socrates and Plato, etc., to be "intentiones mentis," "abstract ideas"; but he avoided the statement that these "ideas" or classifications are arbitrary. And again this, though inexact, practically amounts to the admission of an irreducible kind of reality, a universal.

Neither school, Realist or Nominalist, was therefore able to do without the assertion (at least implied) that there were two kinds of real objects, each quite irreducible to the other, particulars and universals.

Ockham's struggle to avoid an objective universal may be seen in the (*Logic*, I, xvii) chapter he devotes to "The reply to arguments in favour of the opinion of Scotus." There he says—"My opponents say that when things really are alike and really differ they are alike in one thing and differ in another. Socrates and Plato are alike in humanity, in matter and form, therefore they include some things besides these by which they are distinguished and these are called individual differences To which I reply:—Socrates and Plato are really alike in species and really differ numerically and *by the same thing* they are alike and differ. For it is true that the same thing is not the cause of a likeness and of a unlikeness *opposed to* that likeness—that, however, is not the question here, for between the specific likeness and the numerical difference there is no opposition at all." But this, if it means anything definite, surely means that the universal is objectively real.

The importance of Ockham is not in the correctness of his conclusion but in his attitude towards an illegitimate shelving of the problem in his own day. For now again we have been suffering for over a generation from what is mediæval Realism, the doctrine which explains away the particular and the distinct, and seeks to find reality in the featureless unity of an Absolute or of a Flux. The likenesses between individuals and the likenesses between likenesses have not always led to the reduction to one stuff or substance of all individuals even by those who believe in an Absolute. But the tendency of philosophy even in modern times has been to regard the particular as somehow deficient in reality. Against this Ockham argued, and his argument I now propose to carry further. It is reasonable, I think, to suppose that the universal is real and the particular is real and that neither can be explained in terms of the other. And first it must be shown that the particular cannot be a mere collection of universals.

1. Socrates is not a mere collection of whiteness, manhood, etc. For even if one had exactly the "same" universals united they *could* be in two places at once. And if it be argued that, though there *could* be "two" collections of the same universals, there never are such, it would not follow that we do distinguish individuals by counting their qualities.

Scotus is less subtle in this than Thomas since he admits in fact what he seems to deny in theory, that the particular is an irreducible kind of reality. His followers said that what made an individual was *hicceitas* (thatness or thisness); and they thus interpreted Scotus's "*ultima entitas entitatis*" which is the phrase he uses for the "*principium individuationis*." But this admits an irreducible "thisness" or "thatness," not to be explained in terms of "whatness"—therefore not possibly a predicate and therefore not a universal.*

* It is clear that this is no explanation. It is only the invention of a new *word*. Thomas is more resolute in his thinking and ends with "space," not being quite clear as to the irreducibility of the particular *even* into terms of space.

But Thomas makes the individual by the addition to the ("form") humanity in Socrates of "*materia quantitate signata*." Thus *spatial diversity* is the ultimate ground of the particular. Now if space is irreducible to anything else (is not a quality or a relation) then Thomas seems to admit an irreducible particular, which is what Ockham wanted. Particulars would be what had definite connection with one and not more than one point in real space. But suppose that "*spatial diversity*" only means a relation between two sets of qualities or universals then it might seem that there was no particular. The particular would be simply a concept of inadequate thinking since every individual would be a collection of qualities and relations, one of which relations is that of space.

Ockham was not really driven to prove that a particular was *not* a collection of universals, since no mediæval philosopher, since Abelard appeared, had asserted that it was.

To be complete, however, the work of Ockham should have destroyed the possibility of supposing the particular to be reducible in this way to other terms. I do not propose to discuss the nature of space but only to show that numerical diversity is not explained by supposing each particular to be a collection of qualities. I distinguish two oranges (alike in colour, shape, etc.) by reference to the place each occupies. And I distinguish two of my thoughts about the same object by reference to the time at which each appears.* It seems clear, however, that though the particular has peculiar relations to space and time such as the universal has not, yet the

* If space, and perhaps time, are not real in the sense that I construct them, then I equally construct the intuition which seems to destroy them. There is just as much subjectivity in "intuition" as there is in "intellect," even if there is such a thing as "intuition," in the Bergsonian sense at all. One cannot escape from the "merely practical" intellect by an intuition for which no distinction or particular is real, since it can be argued that the intuition itself is only a practical desire and does not give reality. Every argument against the distinctions made by the intellect holds against the identifications made in "intuition."

particular is not "made of" or to be explained in terms of space and time only. For Ockham is right in saying that the particular is distinguished from the universal also in being a "substance." The particular can not be a predicate or a quality or relation of anything else. We cannot say "—— is Socrates" where "is" has the same meaning as in "Socrates is man," or "Socrates is white." And we cannot therefore say "Whiteness, manhood, etc., etc. . . . (to n terms of universals) is Socrates." That is to say Socrates is not a collection of universals (qualities).

Again the universal is not an object of perception. We see not whiteness but a white thing. We grasp whiteness by abstraction; but we require no such process to be sure of the distinction between Socrates and Plato. Therefore again the particular is not a collection of universals. -

This is the meaning of Ockham where he says that the likeness between two white men is not a difficult fact to grasp any more than the distinction of two is. ("Laici, nihil intelligentes de rationibus, ita indubitanter dicunt duos homines albos esse similes sicut dicunt eos esse albos." *Quodl.*, VI, 8.)

And even if the collections of universals are particulars, this collection is not that collection and so there is an irreducible "this" and "that" which cannot be explained in terms of "what." "Hicceitas" is not explained as "quidditas." This, in summary form, is Ockham's argument and I do not, thus far, go beyond him.

I take it then as proved that the particular is not made up of universals as a mere collection.

2. On the other hand the likeness "between" particulars has to be explained by reference to a third thing which one may call a universal. Nor can the mere addition or blurring of particulars (thisnesses) produce a likeness (whatness). The universal therefore must be a kind of reality in relation to which the particulars are "alike." Thus it exists beside and, if you like it, above or beyond the particulars. Here one must

force Ockham to a further conclusion which was not, I think, seen by his opponents or his followers. We may not use the word "real" of universals since it seems difficult to classify thus together particulars and universals. We may say that universals are "in mente," but that they *are* and are independently of our knowledge of them there is no doubt. Therefore they exist in some other way than the way particulars exist: hence we say that the likeness "in" things is not the universal but indicates the universal.

We have shown that the universal is an object. The word man refers to a likeness between certain objects of perception, which likeness is not of our making. That is to say, universals are not made out of particulars, even though we gain a *knowledge* of them after our knowledge of particulars. I think the argument against Ockham (and Hume) is sufficiently well known, so that I take it now as proved that the universal has objective reality, or that it cannot be explained altogether in terms of the particular: or as the mediæval schoolmen said, there is a quidditas which is not made up of "hicceitas" or of "individuatio" but the likeness is a reference of the particular to the universal.

3. Neither being reducible to the other it follows that particulars and universals are different kinds of reals. What the relation between them may be is a further question into which I do not now propose to enter; but I must add that, from what I have attempted to prove, it would follow that this relation would not in the least reduce one of the terms to the other. I say this only because the category of relation is a fertile field for imagination and metaphor, and not a few philosophers have been led to suppose that they have got rid of difficult realities when they have established a relation between them.

4. One point seems to remain over for discussion. It may be said that the supposition on which the whole controversy between Scotus and Ockham is based is correct—namely, that

in the sentence "Socrates is white," the subject Socrates is a *complex* made up of parts, one of which is whiteness. Thus the *relations* of whiteness, manhood, etc., would actually constitute the term Socrates. Or it may be said that reality is "concrete," whatever that may mean, and that the reality referred to in the above sentence about Socrates is "individual-universality" or a sort of indivisible stuff, which in our minds we regard now from one point of view now from another.

But it seems that the supposition of Ockham and Scotus (Hume and Bergson) is *not* correct. Socrates is not a "complex," nor is he a tissue of relations, nor is he a universal soul or vital force. In fact, the reason why philosophy has been confused since the fourteenth century is largely because this supposition was not correct. It underlay other problems, and these could not be solved because *it* had not been recognised for what it was. The neglect of mediæval thinkers, with whom originated many of the fallacies that have complicated the problems of philosophy, is a sufficient cause for the acceptance of a statement as true to fact which is simply one aspect of a theory.

The assertion that the particular is real and the universal is real must not be held to mean that any "real" object is a composite or complex of these two, as water is conceived (in chemistry, inadequately) to be a composite of hydrogen and oxygen. The particular and the universal do not lose their characters by being found together. They remain in nature distinct.

When, however, I call them both real, I may be referring to a likeness between them. Even if "is real" only means "exists" it *may* be a universal. It would in that case be a complex universal involving certain relations to space and time. But I do not propose to argue that point here. It remains a fact that the particular is not reduced to another kind by being called "real," neither to Mr. Bradley's Absolute nor to M. Bergson's Flux.

There was a long and elaborate controversy in the Middle Ages as to the real distinction between essence and existence (whatness and thatness), and the neglect of this again affects much of the reasoning in the philosophy of the nineteenth century. Even in the case of M. Bergson it seems that, confusing the existence of objects with their nature, he has been led to imagine that Reality must be of one kind.

And it is of no avail to contrast abstract Being with the concretion of Reality. This is the usual answer to the objection against making Reality to be of one kind or a complex (new individual) of many elements. I know very well that not even Hegel thought that the greatest abstraction was the ultimate Reality. But that Reality which is supposed to be the Individualised Complex of the likenesses and differences of ordinary experience is itself a fiction.

Against this Ockham protested so strongly that he almost denied the existence of God and was led to suspect that what was true in theology might not be true in philosophy. To save the individual, the Absolute had to be destroyed; but it was a delicate business, since "the insult most resented by supernatural beings is the denial of their existence."

Now I do not propose to argue against M. Bergson in his assertion that Reality is a Becoming in which there are distinctions without differences. For, frankly, I do not understand what it may mean to say that a complex cannot be analysed. If it is a complex, it seems, it can be analysed, and if it cannot be analysed it is not a complex: and yet Hegel also, and all survivals of mediæval Realism, seem to imagine that they may have the use of the word "complex" and the word "individual" as both referring to the same object. As far as I understand it these philosophers seem to believe that in a sense datum there is a distinction between what must not be called parts. The object is not perfectly homogeneous and yet any analysis of it into parts is arbitrary. In the same way, in self-consciousness, there is a *pure* duration which is

not *perfectly* homogeneous; or because I cannot say when I cease to be angry and become pleased, because I cannot exactly define the time-limit of mental states, there is no real distinction within the consciousness—it is one: but nevertheless it does change—it is many. The same difficulty prevents my understanding how of the same individual, uniqueness as well as “consisting of something else” can be predicated. I must, I say, put this aside, as Hume would say, because “although it admits of no refutation, it carries no conviction.” If the word complex is to have any value at all it must refer to an object which it is possible to consider as consisting of parts. “To have your cake and to eat it” was perhaps originally a Rabelaisian phrase for describing Absolutism.

But it is sometimes argued that the unity of a collection (as a heap of stones) is essentially different from the union in a complex (as a living body). And it may be said that my difficulty only holds against a *collection*.

Suppose then we put aside for the moment the question as to how this heap of stones differs from that, and consider only individual wholes, as they are called. I think that in fact the problem is no easier, although it is found useful by various philosophers to turn our attention to what are called “higher unities” or “organic wholes.” There, if anywhere, then we may expect to find out how it is possible to regard the particular as constituted by something which is not particular. There, if anywhere, we shall discover the one which is at the same time many; and shall perhaps at last happen upon the Absolute, or M. Bergson’s universal Explosive Flux.

It is conceived that the particular is a complex of such a kind that the mere *collection* of its (universal) predicates would not be sufficient to form it. It is not by the mere addition of parts that the individual is constituted. The particular in this sense would not be a mere collection of universals, but it would still be explainable in terms of that which constitutes the

complex which it is. The whole, we are told, is "organic," but it is still called a whole. Now "wholes" do seem to differ in kind: a whole heap of stones is not the same in kind as a whole orange. But that does not justify our treatment of the orange as *nothing else but* what we call its constituents.

That is simply to repeat, in a more subtle form, the same denial of the particular against which Ockham contended. When his opponents said that the universal was "of the essence" of the individual, this is what they meant. "The force of the argument," says Ockham, "makes us admit *not* that Socrates and Plato are alike in something which is *of their essence*, but that they are alike *in some things*" (*Logic*, I, xvii).

I take it that we are not willing in philosophy to accept the crude statement that water *is* two parts of hydrogen and one of oxygen. That it may in certain cases be treated as equivalent we do not deny: but water is one thing and "two parts of hydrogen and one of oxygen" is another. Of course it matters nothing how the individual arises, even if we use the concept of cause. The history of origins is not an explanation of the nature of unique objects.

Now I suppose it is granted that Socrates is unique. And if that is granted he cannot be treated as *only* a complex of forces or a tissue of relations. For, considering *only* the forces or the relations, we find no ground whatever for asserting uniqueness, even if we say "complex" and not "collection." If, in the supposed complex, the constituents have lost the character they may be imagined to have when separate, then nothing is gained, in philosophy, by considering the complex to be made of them. And if they preserve the character that they may be imagined to have when separate (if the manhood in Socrates is the same as that in Plato or as manhood in general), then there is no real complex but only a collection.

The unique individual (numerically, at least, different from every other) cannot be even a "complex" of forces or relations which are not unique or not found only in one place at one

time. The words "complex" or "organic unity," if they have any value at all in exact thinking, do not refer to any real thing which is and is not at the same time its constituents. Philosophically, no *explanation* is given of a unique thing by finding out either what things existed just before it (*e.g.*, hydrogen + oxygen before water) or in how many ways it may be regarded as like others.

It follows that the position hinted at, if not completely grasped, by William of Ockham must be the starting-point for any description of the number and kind of realities. We must accept, as the basis for understanding the particular, *numerical difference*; and, as the basis for understanding the universal, existence which is not reality or, if the terms are preferable, at least *two kinds* of reality. The problem will then be stated in its essentials, and for its solution, in spite of many new complications added since, the honesty and exactness of mediæval thought will be recognised as useful.

IV.—PHILOSOPHY AS THE CO-ORDINATION OF SCIENCE.

By H. S. SHELTON.

1. Introductory General Statement.

I AM glad of the present opportunity to bring to the notice of this Society, and to publish, an aspect of philosophical thought which, though not strikingly original, has seldom been presented in a thorough and a practical manner. The main thesis is, in a sense, almost a truism, and yet, if it is a truism, it is one the bearing and meaning of which is seldom or never realised. It is, briefly, that the co-ordination of the facts and theories of science is a branch of philosophy, and that this co-ordination should not be a shadow but a solid reality. I shall take the liberty also of coining for the branch a special name, and will call it objective philosophy.

Concerning objective philosophy, the necessity of this branch of knowledge should be clear to all acquainted with the conditions of modern scientific work. "It will be universally admitted that many questions of vital human interest, which may conceivably be settled by the rigid application of scientific method, lie outside the bounds of any one science."* Many problems of this kind can be mentioned.

"Whatever the special problem may be, our conception of the unity of nature and of the ultimate unity of all aspects of the processes of thought (a necessary axiom of all reasoning, which, like all true axioms, is incapable of proof), renders unthinkable the assumption that diverse lines of investigation will in the end lead to discordant results. Conclusions drawn

* The quotation marks indicate parts of a thesis written some time ago, which I prefer to publish in the form in which I wrote it. The papers mentioned in the appendix are also slightly adapted parts of the same thesis.

from one branch of science can never be regarded as final so long as they are rendered doubtful by evidence obtained elsewhere.

"But the correlation of diverse lines of investigation presents difficulties. No particular group of specialists can undertake that task with a reasonable hope of success. All are convinced of the essential soundness of their own lines of reasoning. All have spent large portions of their lives in the detailed study of some special science, and so it is improbable that the arguments of other thinkers will appeal to them with the same vividness as those which are founded on a use of their own methods.

"This inability rightly to evaluate the validity of results of other workers occasionally leads to a different result. It sometimes happens that one group of specialists will realise the inexactness of their own data when they cannot detect the errors of their opponents. In such cases they will strain the facts with which they are acquainted in order to make them fit a preconceived theory not their own. Such a process is, if anything, more harmful to the progress of science than unsettled differences of opinion. Any valid theory of method demands that each course of reasoning shall be carried to its logical conclusion independent of other considerations. If the results be discordant, then every line of reasoning should be severally examined in order to exhibit all possible sources of error.

"Instances of seeming discordance will occur to anyone acquainted with the controversies of modern science. A large proportion of present day zoologists strenuously deny the existence of the inheritance of acquired characters. A considerable section of botanists, psychologists and medical men are inclined to assert the contrary. Nor is it only in a few controversial questions that we find this inter-relation and interdependence of the various sciences. It is everywhere implicit in modern research. Theories of the structure of our stellar universe depend on our knowledge of the chemical

reactions of photographic plates, the possible physical causes for the displacement of spectroscopic lines and sometimes on more subjective and shadowy foundations. This inter-relation of the various sciences, which ever tends to become more and more complex, is an obvious fact of present day knowledge.

"It is impossible for any single worker to be a competent specialist in more than one of these diverse branches, or, to a very limited extent, in a very few. The enormous increase in the mass of fact tends more and more to narrow the sphere of the individual worker, and so it happens that the results of diverse lines of investigation occasion many loose ends of fact and theory and some apparently discordant results.

"It is clear that here there is room for another class of worker to co-ordinate and criticise the results of the various lines of investigation. Such a worker must have a clear knowledge of the concepts of the various sciences and an acquaintance with their methods and their most general results. It is not necessary or desirable that he should be a specialist in any one branch. It is his work to comprehend the meaning of each science in its relation to the wider aspects of human knowledge. To this class of work, the science of co-ordination, I am here applying the term philosophy.

"In exhibiting this broad contrast between the specialist and the philosophical treatment of the greater cosmic problems, I in no way ignore the fact that much of this co-ordination is accomplished by the scientist. The valid application of scientific method invariably shows the relation between facts that would otherwise appear isolated.

"This distinction between science and philosophy is essentially one of degree. In science, co-ordination is, as a rule, confined to a comparatively narrow range of fact and theory. In philosophy, co-ordination is carried to a higher level. There is therefore no hard and fast line between the two. As the treatment of human knowledge becomes more

general, as the data on which the reasoning is based become more widespread, as the problems become greater and more inclusive, so, by insensible degrees, science will grade into philosophy.

"Objective philosophy as so interpreted may briefly be described as a higher synthesis of common knowledge and of science. The conclusions obtained by such philosophical methods necessarily possess the same reference to fact as the conclusions of the specialist sciences."

2. *Relation to other Branches of Philosophy.*

On this point I propose to be commendably brief. The attempt to indicate the existence of a branch of philosophy not generally recognised is a task sufficient in itself. Moreover, if it fails, the discussion indicated in this section becomes superfluous. If it succeeds, such a discussion can be renewed at a later date. There is, however, one point which requires emphasis here, and that is that "the standpoint of this enquiry is independent of any and all metaphysical assumptions except those which are unconsciously implicit in the reasoning of everyday life. Such a philosophy can be accepted by the holders of each and all metaphysical theories except in so far as these latter may necessitate a strained interpretation of ascertained fact. Should any such theories necessitate unproved or improbable statements with regard to objective fact, or with regard to the probable theories with which the scientist will join them, the trend of such enquiries as the present would demand that they should be revised to that extent. Such a qualification, however, is theoretical rather than practical, inasmuch as an assumption of the facts of experience is the starting point of all recognised metaphysical systems. The higher synthesis of the facts of science, which I here term philosophy, and the methodology implicit or explicit in such a synthesis is thus independent of and consistent with all and every form of metaphysical interpretation."

With this statement the question may be left. That more can be said on the relation between the co-ordination of scientific knowledge, granting it to be an actual or a possible branch of philosophy, and those somewhat vague domains, epistemology and metaphysics, is obvious. It is also clear that the various sections would continually act and react. But there is no occasion to elaborate that point now.

3. *Relation to Methodology.*

On this matter, it is possible to be a little more definite. Methodology, of recent years, has been recognised as a special branch of logical theory. Concerning its value, as currently taught in universities, there is room for some dispute, but, fortunately, the subject is, in a way, recognised, and it does, in a vague and half-hearted manner, make some attempt to deal with scientific method. That it should do so really and practically would require knowledge and original scientific thought on the part of the methodologist, and, moreover, would be inconvenient to the scientist. According to the view here put forward, methodology would be a branch of the objective co-ordinative philosophy. The methodology would deal with methods, the philosophy with results. And, inasmuch as there is, in science, no hard and fast line between methods and results, so the more critical and abstract methodology, and the more practical, positive, and co-ordinative philosophy would grade insensibly into one another. Actually, occasionally, a certain amount of positive co-ordinative work is included in the current methodology. It is one of the aims of the present essay to emphasise the more practical side, even of methodology.*

Should, however, anyone object in theory to the idea of an

* A somewhat fuller statement of this point of view will be found in the *Journal of Philosophy, Psychology and Scientific Methods*, May 12th, 1910.

objective philosophy, and wish to confine the "content of philosophy to epistemology and metaphysics," they would find it difficult to explain the nature of methodology.

"Few would deny that it is a branch of philosophy ; yet, consistently to maintain the exclusive view of a metaphysical philosophy, it is necessary to maintain that it is metaphysics. From the standpoint of the present thesis the position is clear. Methodology is a branch of objective philosophy ; the former deals with methods, the latter with results. Methodology, at the present time, appears to be regarded as a branch of logic, which latter is largely treated by metaphysical methods. Is it not a plausible suggestion that formal logic may ultimately be absorbed by an objective methodology, and may thus become the theory of a certain method of investigating truth ?

"It is clear that, if we are to found a living methodology, we must be empirical. We must observe the methods of the scientist when he is right and, above all, we must observe them when he is wrong. As an instrument of research this latter is more effective than the former for the same reason that the method of difference is more effective than the method of agreement.

"At this point the position of the academic philosopher grades naturally into that of the scientist. Indeed, between the two there appears of late to have been an unconscious working agreement. The scientist has been willing that the philosopher should form a science of methodology so long as he was careful not to examine too closely or to criticise any methods in particular, or so long as such criticisms were couched in such general terms as merely to emphasise the uncertainty that lies on the border line of knowledge. The philosopher, by emphasising the metaphysical element, carried the science so far from the sphere of practical work as to rob it of any definite application to scientific methods in particular.

"The view emphasised here is precisely the opposite. It

holds that objective philosophy, methodology and science must work in harmony and must not be widely separated but closely inter-related. The philosopher must co-ordinate the results of the scientist, the methodologist must examine and abstract his methods. The scientist provides the material for this higher unification and the philosopher should be able to repay this service by showing how this unification clarifies and harmonises the seemingly discordant results of the specialist sciences. The scientist discovers his methods by practical experience and so gives to the methodologist his material. The methodologist should repay this by examining, analysing and criticising the methods and by pointing out where they are likely to succeed and where they will probably fail. This is the test of true objective philosophy, as it is the test of true science—the power to return to the world of particulars, and to show the definite application of general principles, the present or future, mediate or ultimate possibility of verification.

“This object is implicit in the work of the founders of inductive logic and methodology. It is true that Mill only claimed to systematise the best ideas that have been conformed to by accurate thinkers in their scientific enquiries. But the reason for this is easily understood. Mill’s work represented the foundation of methodology. Practical science had taken some gigantic leaps and had left the old-fashioned logic badly stranded. In the early stages caution was required in order to formulate the principles which practical workers had used unconsciously and instinctively. Moreover, the attempt to systematise the best methods implied the power to reject the worst. The next stage in development, represented by Professors Bain and Jevons, was by no means void of practical application, as witness the cogent criticisms of the former of the Euclidean axioms which are not axioms and the views of the latter concerning the nature and limits of mathematical reasoning.

“Indeed it seems obvious that a methodology which could never distinguish between a good method and a bad one would be as futile as a logic which was unable to distinguish between a valid argument and one that was invalid.”

One other remark on methodology will be of interest. That methodology is taught in universities, that it is a recognised subject of instruction, that it can actually be taken as a subject for the external B.Sc. of the University of London, that it is not taught to science students, that those who teach it know so little of science in the concrete and are generally unable to discuss scientific problems with men of science, should at least provide a harbour of refuge to one who may have been too ambitious in advancing the larger claim. If the kind of work to which I shall refer later is not to be recognised as philosophy in the sense in which I am applying the term in this paper, we can solve the difficulty and avoid verbal hair-splitting by calling it methodology. Whatever you call it, at least it has, as we shall see later, some practical bearing on science, and it is better than a methodology which consists mainly of verbalism, abstraction and futility. Methodology, according to the view here stated, is a branch of objective philosophy dealing specially with scientific method, but, if you like, if you do not approve of the larger claim or think it possible or practical, you can slightly extend the scope of methodology, retain the confused medley of its content, and make it more practical, and the extension will serve my purpose well enough. The division suggested in this paper is more logical, and logic is of some value even in logic, but the more modest claim may be more practical.

4. *Historical.*

This section, also, need be but brief. The division between what is now called science and what is now called philosophy is distinctly of modern growth. It has arisen solely and simply because of the vast unordered accretion of fact and theory

found in modern science. So the attempts at co-ordination have not been numerous.

"Those who deny that such attempts are philosophy have arrayed against them the verdict of history, for many of the great philosophers attempted this kind of unification. With regard to ancient philosophy it is only necessary to mention the name of Aristotle and, in modern philosophy, for those who will not accept the example of the second part of *First Principles* or Spencer's *Principles of Biology* we need only go back to Kant, the originator of the nebular hypothesis and of the idea of tidal retardation. The larger questions of science have always had an intense attraction for the philosopher, who has never been willing to take his opinions from the scientific specialist. Owing to the greater mass of fact and the rapid advance of the specialist sciences the task of criticising and co-ordinating these results is more difficult to-day than ever before, but it is all the more necessary."

With regard to Comte and Spencer, who, in modern philosophy, are the most noted exponents of the philosophic co-ordination of science, it unfortunately happens that both of them are also noted for decided views of the subject of metaphysics, and also on that of religion. The connection, needless to say, is purely accidental, unless we say that their views led them to lay more stress on science than would other philosophers. But so it is, more or less, with all scientific specialists. It should be obvious that there is and can be no necessary connection between a philosophic co-ordination of science and special metaphysical and religious views. With Comte it does not greatly matter. He was apparently content to be regarded as a kind of amateur pontiff, and I have not discovered that anyone, at the present day, places any considerable value on the scientific side of his philosophy.

With Spencer the case is different. Though there is no space to criticise his work here, I am of opinion that his co-ordination, especially in biology, but also in physics and

astronomy, is of the greatest value.* Those who deal with this side of philosophy must always reckon with him. The kind of work that is here indicated he actually accomplished, for his time, thoroughly well. So, once again, it will not be out of place to emphasise that his metaphysical and religious views have nothing to do with the question. He himself recognised this and distinctly stated it. Indeed he hardly thought it possible that critics could be so inept as to connect the two.†

Here the historical side can be left. That there always has been an intimate connection between science and philosophy no one can dispute. Until the present century, to mention the names of those who have dealt with matters scientific as an integral part of their philosophy is but to mention nearly all of those who are worthy of mention. No further argument or defence is required. It is rather the incompetence of the philosophers of the present day on the scientific side that calls for comment.

5. *Practical.*

It is the practical side that is most important. The theoretical statements in the preceding section will, no doubt, receive a considerable measure of agreement. But the value of a statement that the co-ordination of the facts and theories of science is a branch of philosophy depends entirely on whether or no it is possible to realise it in practice.

* Though most of my material on Spencer is, as yet, unpublished, I can refer anyone interested to the following papers:—(1) "Spencer's Formula of Evolution," *Philosophical Review*, July, 1910. (2) "Evolutionary Empiricism," *Mind*, Jan., 1910. (3) "Review of Hartog's 'Problems of Life and Reproduction,'" *Science Progress*, July, 1913.

† See last edition of *First Principles*, p. 110. My reason for the repetition and the emphasis will be found in the fact that I have, quite recently, found it necessary on this point to correct a philosopher who thought himself competent to deal with Spencer (*Philosophical Review*, May, 1912). In view of Spencer's prominence, the widespread misunderstanding affects, more or less, the whole subject here discussed.

“Such an ideal is remote and can only be realised by the continual labour of many generations of workers. Any single thesis can be but an infinitesimal contribution to that end. It is indeed a far cry from such remote ideals to the possibility of the accomplishment of any single worker. But, if any such ideals are ever to be realised, this can only come about by the continual accretion of individual attempts to organise this or that portion of the present structure of positive knowledge.”

To make any contribution whatever is a task that, obviously, presents difficulties. The body of knowledge known as science contains a certain amount of definite ascertained fact. It requires careful study to understand the main trend of the theories. It is easy, in a way, to write on the philosophy of science, but it is not at all easy to write sense. I am well aware that, to attempt such work requires a certain minimum of knowledge and ability.

But, as anyone who, at any time, puts forward a claim such as that which I have, tentatively and with all reserve, mentioned in this paper is bound to try to show that such co-ordination can be a solid reality, I shall now, without further introduction, describe as briefly as may be such attempts as I have actually made. Here I am in some difficulty. The space at my disposal will not allow me to enter into prolonged discussions on matters scientific. On the other hand, the paper would be of little avail if the practical side were wholly omitted. Also, my main contribution to this side of philosophy is not yet published in volume form. So I can only here give a brief account of the scope and purpose of such work as I have done. And, for convenience of reference, I have put in the appendix further particulars for the benefit of any who care to study the matter in detail. Anyone who wishes to do so will need to follow it through a number of journals, philosophical, scientific and popular.

“As a contribution to the accomplishment of this ideal of the

higher organisation of present day knowledge I chose the problem of the age of the Earth, which is, in many ways, particularly well adapted for such co-ordination. This problem is one of exceptional interest. It has been the occasion of interminable discussion from every point of view during the past half century and it is one in which the varied consideration of different aspects shows no more signs to-day than when first mooted of giving consistent conclusions.

"Various attempts have been made to reconcile opposing views, but with small success. Such attempts usually necessitated the straining of one or other class of evidence and subsequent discovery has proved their folly by altering the deductions that would naturally be made from one class of evidence without affecting the value of the others. Subsequent discovery has continually tended to show the illusory nature of the apparent harmony rather than to confirm the speculations which preceded it.

"In such a case as this, it seems probable that a more radical discussion of the methodological basis of the whole series of speculations will help to show where the errors are to be found. There must be fundamental fallacies either in the methods or in the data. If it can be shown, as I endeavoured to show, that, in the greater number of the attempts to fix a maximum limit to the age of the Earth, there are implicit fallacies which proceed from a misunderstanding of the nature of the methods of investigation, or from the neglect to observe their necessary limits, such an enquiry may do something to show on what lines the problem is most likely to be solved.

"The present time is exceptionally favourable for such an investigation in that the discovery of radioactivity has thrown the subject once more into a state of flux. The relation of this new discovery to our older knowledge does not appear to be clearly understood. Moreover the introduction of this new fact into the discussion has the very valuable effect of making it easier to subject some old-standing fallacies to a searching

examination. And in this re-examination it is eminently desirable that the problem should be treated as a whole."

The treatment was briefly as follows. The principles of the interrelation between mathematics, considered as a pure science, and its application to physical problems, appeared to me to require investigation. An early part of the thesis, therefore, consisted of a theoretical investigation of the principles of applied mathematics. I set forth certain principles and showed that, for a lack of a clear understanding of the methodology of mathematics, the whole of the work of Lord Kelvin and Professor Tait on secular cooling and allied subjects was absolutely invalid, not merely on account of discovery in radioactivity, but inherently and theoretically invalid. The same remarks applied to the tidal retardation argument. On that matter, I made some original suggestions and also showed clearly that the recent astronomical theories of Mr. P. H. Cowell (now Superintendent of the Nautical Almanac Office), who thought that tidal retardation was about ten times as great as that calculated by Newcomb, were entirely unfounded. The problem of the age of the Sun's heat next came for consideration. I gave this problem careful investigation, and, finding that all recognised theories were insufficient to account for the duration of solar heat during geologic time, I put forward an original theory of my own. I have since discovered that, some years ago, Professor Rutherford put forward the germ of a similar theory and has since modified his theory to the form put forward by myself.* The theory led quite naturally to a theory of the origin of radioactive matter, which has also some support, though not quite so definite, from Professor Rutherford, and to a theory of the structure of the solar photosphere, which was intended to displace the very untenable and inadequate carbon theory of the

* The original form will be found in *Radioactivity*, p. 344; the modification will be found on p. 656 of *Radioactive Substances and their Radiations*.

late Dr. Johnston Stoney, and which, to my knowledge, has not yet been noticed or criticised.

Passing on to more modern work, I gave brief notice to the new method based on the composition of radioactive minerals, which was not, at the time, in such a form as to require methodological investigation, and then proceeded to show that Professor Joly, in his calculations on the saltiness of the sea, had, apart from other errors, entirely misrepresented the results of water analysis and that his calculations were utterly worthless. Similar remarks applied to Professor Sollas' calculations based on the thickness of the sedimentary rocks. I showed that he had entirely misrepresented the manner in which the sedimentary rocks were formed.

The interest of the discussion lay here. It was not so much that any transcendent importance attached to the question whether the earth was ten millions of years or ten thousand millions of years old, though that question is of great importance in geology, but it did seem to me to matter, both from the point of view of the man of science and the philosopher, that, for the lack of a clear understanding of the principles of scientific method, the whole scientific world was capable of such colossal blunders.

With regard to the methodological examination and philosophic co-ordination of scientific work, I will mention only one more example, though, if limitations of space did not forbid, it would be possible to give several more. The former will be of interest to this society in that I do not think there is, even among men of science, any serious doubt concerning the correctness of most of the conclusions stated. The one I am going to mention is of equal interest because I am in some doubt as to how the matter is regarded in the scientific world. I refer to that well-known and much discussed and advertised principle the *Dissipation of Energy*. I cannot explain this at any length and must assume that, although the principle is of considerable scientific complexity, its technical meaning is generally

understood. As is well known, the authors were principally Lord Kelvin and Clausius, and amongst modern advocates may be mentioned Sir Joseph Thomson and Professor Poynting. It has, of course, always been recognised that it had not the validity of the Conservation of Energy, but it is, I think, still widely held in scientific circles.

The view being so interesting, scientifically and philosophically, so important and so widely held, it appeared to me that it would be of some interest to subject it to careful methodological examination. On so doing, greatly to my surprise, I discovered that it was a principle which, in no sense of the word, could be said to be adequately proven. In fact, there was no proof whatever. The very principle which was required to be proved was, it appeared, assumed in a disguised form and called an axiom. There was an extrapolation from the behaviour of heat engines to the behaviour of the whole visible universe, an assertion for which no grounds* whatever were given. The principle had been proved by the simple and obvious method of assuming it.*

I mention this because of its philosophical interest, though I am in some doubt how to classify the investigation. There is co-ordination in the paper, but the main aspect is certainly methodological. Perhaps it does not greatly matter how you classify it, because, on my view here stated, methodological criticism and philosophic co-ordination grade insensibly into one another.

With this brief account, I propose to leave the practical side. I emphasise it because it is, to me, an essential part of the scheme and is intended as a real attempt towards the advancement of knowledge.

* On this matter, I must refer readers to the *Oxford and Cambridge Review*, Jan., 1912, where the arguments are stated at some length.

6. *Summary and Conclusion.*

I shall conclude with a few remarks on the general aspects of the philosophical co-ordination of scientific fact and theory.

"Our investigation now returns to the starting point—the nature of philosophy, its relation to methodology, the relation of both to science. On this subject it is, above all, necessary to be clear and explicit, because the main ideas are opposed to those of many scientists and of many philosophers.

"Throughout the present thesis I invariably use the term philosophy in the sense of the science of co-ordination, the organisation of our ordinary positive knowledge to a higher level than that of the specialist sciences. Such a standpoint will probably receive opposition from two quarters. Some scientists will say it is not possible and some metaphysicians will say it is not philosophy.

"Let us take the last objection first. The assertion of the existence and necessity of an objective philosophy does not imply any depreciation of the value of metaphysics. To maintain this view, it is not necessary to say with Comte that the development of positive science leaves no room for metaphysics. It is not necessary to say with Spencer that the questions with which metaphysics concerns itself belong to the Unknowable. It is not necessary to assert that metaphysics is not philosophy or that it cannot give tangible practical results. This view merely asserts that it is not all philosophy.

"It is for this reason, as well as on account of its great cosmic and practical interest that I have taken as my subject the age of the Earth. There are many topics of wide scope and of great human interest which might conceivably be attacked by a metaphysical method, but this is not one of them. Here there is no possibility that analysis will show any ambiguity in the terms of the problem. It is clear that a definite answer is possible. It is 1,000 million times the present period of the Earth's revolution round the Sun since the laying down of that

layer of sandstone in the Lower Cambrian—or more, or less. It is or is not. There is no middle course. The old-fashioned axioms of logic are strictly applicable. And metaphysics is as likely to tell us the truth on this matter as it is to inform us of the date of the construction of the Great Pyramid of Gizeh.

“On questions that are human in the narrower sense, Ethics, the meaning of social life, the fundamental constitution of human thought, it is not unlikely that metaphysics may throw some light. The human mind is very complex and we have not yet unravelled its complexity. It may be that in this way we can get in touch with truths beyond the range of the ordinary methods of observation and reason. But the multitude of facts with which ordinary science and common knowledge deal are objective and external in a totally different sense, and the attainment of truth on these is only possible by the use of the same series of categories by which the scientist has attacked them. Yet no philosopher will deny that they need co-ordination. The conclusions of the scientific specialist are sometimes absurd and often contradictory. There are so many loose ends of fact and theory. And none would deny that it is in the highest degree desirable to join these and to weave the structure of science into a coherent whole.

“The scientist is inclined to resent outside criticism and to depreciate the possibility of the philosophic treatment of the larger problems. An attempt to apply the philosophic method to such a problem as the age of the Earth is met with the query whether such a question is a matter of words. The implication is somewhat widespread among scientists; but the reply is simple. Such a question is not a matter of words but of fact and interpretation. The specialist will claim that he supplies the fact, and, up to a certain point, his claim is just. But it must be accepted with considerable qualification. In the first place no particular group of specialists provides all the facts relevant to the discussion of any of the larger problems, nor do they always distinguish between the facts

and their own interpretations and secondary constructions. Also sometimes with the plain facts in front of them they will, owing to various misconceptions, make strained false inferences instead of the straightforward true ones.

"If for the sake of illustration we assume the truth of the main results of the preceding section we can see how necessary it is to correlate the various lines of investigation. The analytical chemist does not know that there is any reason to take special care in determining the percentage of sodium in river waters. Professor Joly does not know that these data are specially inexact and uses them for the purposes of his famous sea-salt investigation. Professor Dubois is aware of this cause of uncertainty and recalculates Sir John Murray's results using only the more accurate data. He finds that Professor Joly's figures must be multiplied by 4. But he thinks that Lord Kelvin's arguments are sound and so makes the invalid inference* that the sodium has reached the sea in some other way. Professor Sollas finds that the shorter rivers (*e.g.* of Hawaii) contain more sodium than the larger ones, infers that this is due to the volcanic nature of the Hawaiian islands, whereas there is no doubt that a great part of the effect is due to cyclic salt. He also is obsessed with Lord Kelvin's argument and so makes a geologic estimate of the age of the Earth, which, on his own data, is insufficient to erode a single fault in the Highlands. And so the circle of vicious reasoning goes on. Whether or no the present writer has succeeded in correlating these various data, there can be no doubt as to the necessity for such co-ordination.

"Nor are these discrepancies entirely a result of recent

* It would hardly be wise to dogmatise as to how the sodium has reached the sea, but whether or no M. Dubois' conclusions be right, the reasons are certainly wrong. The references are as follows:—Professor Sollas, "Address to Geological Section of British Association," 1899; Professor Joly, *Proceedings Royal Society Dublin*, vol. 7; Professor Dubois, *Proceedings Amsterdam Academy*, 1902.

discoveries in radioactivity. The argument from tidal retardation is as valid as it ever was. So is Professor Sollas' estimate. So is Professor Joly's. Also the difficulty concerning the age of the Sun's heat cannot reasonably be regarded as settled except by making assumptions which might well have been made before that discovery. The essence of the difficulty is not so much the discovery of new fact as the co-ordination of the old.

"The objection of the specialist to the philosophic method is to some extent due to his experience of theorists within the bounds of his own branch of knowledge. He is well aware of the ease with which it is possible to raise idle theories on a small basis of fact. And so, within the borders of the specialist sciences, there has arisen an unwritten law that, before the specialist will listen to the theorist, the latter must prove his competence by bringing forward some fresh fact. Such an attitude is to some extent just. If, from a number of complicated theoretical considerations, a chemist comes to the conclusion that the commonly accepted atomic weight of iodine is too high, the obvious reply is, take some iodine and prove it. If such theories are purely chemical, or purely physical, or purely zoological, the chances that a new observer who has not proved his acquaintance with the facts can add anything appreciable to the discussion is certainly small. He possesses the specialist narrowness without the specialist direct acquaintance with fact. Even here, however, it is probable that this judgment is sometimes too summary.

"But, when the question is large enough to overlap the boundaries of any one science, the philosopher does bring fresh fact. When the physicist calculates the age of the Earth on the supposition that the Earth is a rigid body, it is a very cogent fresh fact to inform him that, for the purposes of geologic time, the Earth is not a rigid body. The putting together and evaluating of the detached facts and theories of the specialist sciences is a very real service.

"Indeed, it is not too much to say that, for the due evaluation of the methods and results of these larger questions, very detailed knowledge in any one branch is not a qualification but a positive disqualification. The relative value of the various methods of investigation cannot be justly estimated by a scientist whose whole life has been engaged in using one of them. The human mind is finite. That faculty of concentration on some small corner of knowledge and on some few methods of investigation which is so essential to accurate work and to the discovery of new facts is fatal to the power of seeing his own and other methods in due perspective. A mathematical physicist who spends his life in solving complicated differential equations with marvellous analytical skill and in applying them to the problems of experimental physics, comes to the conclusion that this is a world of differential equations. He applies them to a problem to which they are not applicable and then is surprised that the geologist refuses to accept his results. It is indeed an indisputable fact that all the larger questions of cosmic and human interest overlap the boundaries of any one science. And these boundaries are continually becoming narrower.

"To find the differentia of philosophy and science we need to discover whether any special grouping of objective fact will serve the purpose of these greater problems. Many of the facts relevant to the discussion of any one of the greater cosmic questions will have no special reference to any other. A knowledge of the methods of chemical analysis discloses the fact that it is more difficult to estimate the sodium in river waters than it is to estimate the chlorine. This enables us to discover a cause of uncertainty in a well known method of estimating the age of the Earth. But it is unlikely that this particular detail will have any bearing on other problems of wide cosmic and human interest. If all facts were like this, isolated and incapable of larger application, no objective philosophy would be possible. An individual who investigated

one such problem would thereby make himself a specialist of a new kind, a specialist who had organised another grouping of the facts. In some sciences such specialist grouping actually exists. In Zoology, for instance, we have specialism according to the orders of the animal kingdom and according to structures, entomologists and osteologists, specialists in the protozoa and specialists in cell structure.

“ But facts are not isolated. They admit of generalisation. Only in the power to form these is developed human knowledge possible. Science consists of generalisations. These are of all kinds and vary in their range. That red lead when heated gives off oxygen may be correlated with the fact that oxide of mercury does the same ; but then we find that oxide of iron does not. But the fact that the combined mass of the oxygen and the litharge is equal to the mass of the red lead is one that joins itself with others and provides us with a principle which we can apply to the utmost bounds of space and time—the principle that mass (inertia) is neither increased nor decreased by any process which we know or can conceive. Running through the web of our experience our science will discover connecting strands of varying length and strength. Those which penetrate to the limits of the known we can use in our efforts to unravel the unknown.

“ It is the first function of an objective philosophy to examine these, to comprehend and criticise the evidence on which they rest, the methods by which they are established to discover their range and their degree of validity. This is essentially a philosophic question. The generalisations which are approximately valid for a certain series of facts, and within a certain circle of ideas, often break down abruptly when it is sought to carry them one step further. And any philosophy will break down abruptly which accepts these unchallenged from the specialist. Science is full of incomplete partial theories which will not bear extension into other spheres of thought. The path of philosophy is littered with the *débris*

of systems which were still-born through failure to observe the simple axiom that, in order to build a superstructure, it is essential to examine the foundations.

“To accomplish this, the philosopher must know sufficient of the details of each of the specialist sciences, or at any rate of those the facts of which are relevant to the problems he is discussing, to understand the manner in which they have been built up. The abstractions of scientific generalisations are shadowy and useless except for those who can reduce them to the concrete. The power of imaginative realisation varies with the individual; but, where it is greatest, it must ultimately found itself on definite concrete fact. In what way to obtain a sufficient store of these to enable him to analyse and examine the larger generalisations of the specialist sciences and to assess their range and validity, and yet to avoid that excess of detail which obscures the larger principles is a problem that each philosopher must answer for himself. For him more than for any other worker it is essential that the detail shall not obscure the main principles, and yet it is equally essential that he shall be able to return to the world of detail to show the application of the larger principles.

“Philosophy is also concerned with the formation of hypotheses. This is the great unsolved problem—the rules, if any can be found, for their formation. But, as yet, none appear to have been discovered. This appears to be an intuitive process, often largely subconscious, which arises from a continuous grouping and regrouping of the facts and the viewing of them from different aspects. This intuitive power varies largely with the individual and depends on causes largely unknown.

“But, though no rules can be given for the formation of hypotheses, some can be given for their adoption. They must ever be tested by their congruity with ascertained fact. Here is ample room for philosophic enquiry. It is by no means easy to discover what can and what cannot be termed fact.

This is not only a question of accuracy of observation and statement but of interpretation. It is here that the philosophic method is valuable and useful. The very greatest scientific workers are continually liable to mistake their hypotheses for fact, and, partly through faulty methods of instruction and through other causes, the scientific student is continually liable to confuse the two. Here is an example from the work of one of the greatest biologists of the century.

“ ‘Now they (Darwin’s ideas on pangenesis) are irreconcilable with the fact that the germ substance never arises anew but is always derived from the preceding generation—that is with the continuity of the germ plasm.’* ”

“The work from which this is taken is a translation, and it is possible that some slight difference of meaning may have crept in; but the statement as it stands is certainly incorrect. The ‘fact’ is not a fact, it is a hypothesis. It is not a fact that germ plasm is derived directly from preceding germ plasm. It is not even a fact that there is a germ plasm as distinct from a soma plasm. There are some facts which appear to point to that conclusion and may be more readily co-ordinated by a germ plasm hypothesis than by any other; but that is a very different assertion. Spencer’s theory of constitutional units denies the distinction, and there are at present no facts explicable by Weismann’s theory that cannot be explained by Spencer’s. Darwin’s, Spencer’s, and Weismann’s theories of heredity have varying degrees of probability, but they are all hypotheses.

“Semi-popular works and reviews on biological questions are now beginning to assert dogmatically that acquired qualities are not inherited. This is another confusion between fact and theory. It is no part of my purpose here to attempt to discuss these current controversies; but these statements will show how readily confusion can arise.

* *The Evolution Theory*, by Weismann, vol. I, p. 262.

"Beyond a very few general principles, it is doubtful whether it is possible to give any useful positive statements concerning the methods of objective philosophy. The advance of scientific specialism has been so rapid and the past half century has seen but few attempts on the part of philosophy to keep pace with the changing conditions. One indeed stands pre-eminent but it remains with the future to assess its value.

"Objective philosophy endeavours to accomplish a task modest in its ultimate aims and difficult in its achievement. It divests itself so far as possible of metaphysical assumptions; it carries with it only those, like the unity of nature, which are essential for its purpose, but it assumes no right to judge or evaluate others except in so far as they come into contact with objective fact. Those who attempt to advance knowledge by the co-ordination of the facts and theories of science are well aware that their sphere is but to scale the lower hills. Whether or no others can scale the mountain tops, can soar into the empyrean of ultimate metaphysical unity, it does not lie within their province to determine. They are well aware that such is not within their own power of achievement. Objective philosophy must rise far enough above the multitudinous confusion of detailed fact to understand the larger principles that underlie them; but not so high as to lose sight of the facts which these principles join and explain.

"In some small way to correct the modern tendency towards overspecialisation, to preserve that wider view which tends to be lost in the increasing mass of detailed work, to distinguish between the facts of the scientist and his theories and opinions, to endeavour to ascertain which of the latter are sufficiently well established to be transferred to other spheres of thought, and which are allowable only as working hypotheses to be confined to the circle of ideas whence they arise, to separate the main trend of human thought, research and endeavour from those personal and sectional excrescences with which they are bound up, these are a few of the aims of objective philosophy.

“Such a philosophy, like science, makes no claim to finality, it is merely an attempt to express coherently and to advance our present knowledge of the world of fact. Modest as the aim may be, it is useful and necessary. Unless philosophy can accomplish this, it will ever remain open to the comment of the average man and of the practical specialist that it is merely concerned with words, while they are concerned with facts. If it can first accomplish this task, if it can throw light on the proximate problems of human life, then its attempts to solve ultimate problems by the more speculative methods of metaphysics will be of wider interest and will appeal to a larger circle. The breach between science and philosophy is now too great. Between the scientist who deals with the proximate and ignores the ultimate and the philosopher who speculates on the ultimate and ignores the proximate there is a great gulf fixed. Objective philosophy endeavours to bridge the gulf and whatever measure of success it may attain in this endeavour will tend to the advance both of science and of philosophy.”

APPENDIX.

Anyone who desires to check the statement made on p. 110 can do so by reading the following papers :—

1. “Secular Cooling as an Illustration of the Methods of Applied Mathematics,” *Journal of Philosophy, Psychology, and Scientific Methods*, September 1st, 1910.
2. “A Theory of the Origin of Radioactive Matter,” *Science Progress*, January 1st, 1914.
3. “The Methods of Applied Mathematics,” *Journal of Philosophy, etc.*, September 30th, 1909.
4. “The Tidal Retardation of the Earth,” *New Quarterly*, November, 1909.
5. “The Age of the Sun’s Heat,” *Contemporary Review*, June, 1913.

6. "A Theory of the Structure of the Solar Photosphere," *Knowledge*, January, 1910.

7. "The Age of the Earth and the Saltiness of the Sea," *Journal of Geology*, February-March, 1910.

8. "Modern Theories of Geologic Time," *Contemporary Review*, February, 1911.

All except the last are adapted, almost verbatim, from the same thesis of which another part is included here in inverted commas. The last is an expansion of the argument.

V.—INTUITIONALISM.

By N. O. LOSSKY.*

A THEORY of knowledge must be free from any assumptions with regard to the relation between the knowing mind and the external world. It must begin simply by an examination of consciousness and an exact description of the elements and relations which may be contained in it. Kant set himself the task of following this plan. But he did not carry it out, for, under the influence of the traditions established by his predecessors, he started with the assumption that the contents of consciousness must necessarily be mental states of the individual.

Let us then discard all preconceived ideas about the world, the human soul, body, etc., and confine attention to such manifestations of consciousness as are expressed by the phrases "I am glad," "I want to listen to the music," "I see stars in the heavens," "I touch something hard," "I know that $2 \times 2 = 4$." That of which I am conscious—the joy, the wish to hear the music, the seen stars, etc.—is very different in the several examples; but in all cases it is something which stands in a certain specific relation to the self. This relation cannot be described or defined by analysing it into its elements, for it is simple and unique. The nature of the relation may be hinted at by means of a figurative expression which should not be understood literally; everything that the self "has" enters the domain of consciousness.

That which the self "has" may be called a content of consciousness. A mental state can then be analysed as follows:

* Translated from the Russian by Nathalie A. Duddington.

The fact of being conscious must involve at least three elements: (1) the self, (2) a content (a "something"), (3) a relation of "having" between the self and the content. On the ground of this relation it may be said that the self is that which is conscious and the content is that which it is conscious of. Any "something" such as the fall of a star or the hardness of iron will be a content of my consciousness when I become aware of it. In order that there should be consciousness there must be this relation of awareness. But the particular nature of the content to which the self stands in the relation in question is not essential. No rational grounds can be adduced to prove that that of which we are aware, *i.e.* the contents of consciousness, must needs be mental states of the conscious individual. So far as one can see there is nothing but tradition and prejudice to prevent us from admitting that a physical fact forming part of the external world may, while I concentrate my attention upon it, enter the domain of my consciousness. For instance, the movement of the pendulum is a fact in the external world and not a psychical event. But there is no difficulty in conceiving that at the moment of perception it becomes apprehended by me.

I have somewhat anticipated in order to make clearer the distinction between my view of the structure of consciousness and the traditional theory. I have yet really no right to call some contents psychical and others physical, some subjective and others objective. All that has so far been pointed out is the indisputable fact that contents of consciousness may be infinitely various, as different from one another as for example "my joy" and "the movement of the pendulum" observed by me. I must now define what I mean by the "psychical" and "non-psychical" elements of the world as well, as by the "inner" or the "subjective" and the "external" world. This can only be done by making use of the differences between the contents that the analysis of consciousness has brought to light.

To begin with, the following circumstance should be noted. As has been said above, consciousness is the totality of all the contents of which the self stands in the peculiar relation figuratively described as that of "having." This "having" is of two kinds which are totally distinct. Some contents are immediately experienced as manifestations of myself (joy, wish, etc.) while others (the observed "blue" of the sky, the "hardness" of iron, the "swinging of the pendulum," etc.) are immediately experienced as something foreign to myself. They enter the sphere of my consciousness only as something "given to me," only in so far as I direct my attention upon them and "bear them in mind." Contents of the first category are always unanimously recognised as psychical and as belonging to the inner life of the conscious subject. Those of the second category are, on the contrary, regarded on the evidence of immediate experience as belonging to the external world. * Only under the influence of theories framed by physics, physiology, psychology and metaphysics do we begin to assert that these contents are also psychical (like joy and wish) and form part of the inner life of the subject. It will then follow that the external world is not "given to me" in consciousness for one single instant, that it remains for ever transcendent in relation to the knowing mind. This conclusion occasions insoluble difficulties and contradictions in Epistemology. The difficulties and contradictions are not due, however, to the real nature of the facts but to an interpretation which does violence to the facts. At the basis of this interpretation lies the mistaken view that the self and the external world can only communicate by means of causal interaction, for example, by means of impressions or impacts. As soon as this prejudice is discarded it will be seen that there are no sufficient grounds for suppressing the instinctive tendency of the human mind to take the second group of the contents of consciousness for the actual features of the external world.

In accordance with the dictates of immediate experience, the first group of contents may then be described as "my" states of consciousness, and the second as "the given" states of consciousness. Let us refer to the sphere of the inner psychical world only the states immediately experienced by me as "mine," and regard all other states as actual portions of the external world.*

It should be noted that "my" states (joy, wish) may also become an object of my attention. In that case they will stand in a twofold relation to me. They will be "mine" (in the sense of being a state of myself) and they will be "given" to "me" for observation.

It is the second kind of "having" something in consciousness that is of particular importance to Epistemology. Here the relation between the self and some content arises through attention being directed upon this content whether it be psychical or physical, whether it form part of the external world or of the mental life of the individual. The peculiar relation which is thus established through attention and results in some part of the world being "given to me," may be described as contemplation, immediate apprehension or intuition. Or, in order to avoid misconception that might arise owing to historical associations connected with these terms, it might be designated by the words "epistemological co-ordination" between subject and object. A theory of knowledge founded upon such a conception of the relation between the knowing subject and the known object may be called Intuitionism or Universalistic Empiricism (in contradistinction to the Individualistic Empiricism of Locke and Hume.)

The epistemological co-ordination of subject and object, *i.e.* the relation between them which consists in the subject's contemplating the object, clearly has no causal character. It does not consist in the action of the world upon the self or *vice versa*.

* This question is worked out in detail in my book *Intuitionism*.

This is the reason why the scientist, accustomed to dealing with relations that obtain in Physics, Chemistry, Physiology and especially with the relations essential to a purely mechanical and materialistic conception of the world, viz. the relations of push and pressure between particles of matter, does not perceive the relation indicated above which lies at the basis of all processes of knowing. Indeed he finds it hard to understand the Intuitional theory of the structure of consciousness.

It is convenient to describe the relation in question by the term "co-ordination," because we can thus emphasise the absence of subordination between subject and object. Such subordination is assumed both by the Empiricism of Locke and by the critical philosophy of Kant. For Locke the object is the cause of sensation in the mind of the subject. For Kant on the contrary the object is due to the thinking activity of the subject.

No theory of knowledge can altogether avoid admitting the relation of co-ordination between subject and object, but as a rule the admission is not clearly expressed. Thus, for example, both Locke and Descartes deny the existence of such a relation so long as they are dealing with our knowledge of the external world. But as soon as they begin to consider the data of inner experience they think it perfectly clear and self-evident that the mind observes its own states as they actually occur (that, for example, the mind is aware of actually experienced joy and not of a symbol or copy of that emotion). In other words they admit, without stating it explicitly, that there exists a relation of co-ordination between the knowing mind and the known object (the joy); they maintain that the self contemplates or immediately perceives its own states. According to them not only my knowledge of my own joy but also my knowledge of the colour "red"—in so far as I am concerned with my own sensation and not with the external world—belongs to the sphere of inner experience and takes the form of immediate contemplation or intuition.

It seems to me that even the Critical theory cannot avoid admitting that some knowledge is obtained through contemplation. Speaking of the inner sense Kant, it is true, affirms that we know ourselves, as well as the external world, only as phenomenal. But if the question be asked how is knowledge itself known, how, for instance, do we know the forms of knowledge, the Categories described in the *Critique of Pure Reason*, the follower of Kant will have to admit that in that case at least the mind contemplates the object of its study, apprehends it immediately and describes it just as it is found in the process of knowledge.

Intuitionism makes a much wider use of the doctrine of immediate perception than is made, for instance, by the Empiricism of Locke. According to the Intuitionist theory there is no difference between knowledge of the inner and of the outer world. The knowledge of both is founded upon immediate apprehension (contemplation or intuition).

Now since the mind becomes aware of a "given" part of the world by means of contemplation, without any causal interaction between the subject and the object, there is no ground for supposing that contents of knowledge must needs be sensuous in character. Space, time, motion, etc., can be regarded as non-sensuous and yet "contemplated" elements of the objective world. They need not in any sense be derived from the tactual, motor, and visual sensations, though they are apprehended together with them. What is more important, our view of knowledge does away with the reasons which led both the Empiricists and Kant to deny that relations such as causality may be given in experience. To put it briefly, according to the Intuitionist theory that which transcends sense does not transcend experience.

The view that "given" contents are a part of the external world may seem very doubtful. Colours, sounds, etc., in contradistinction to the activity of attention directed upon them, are felt to be "given to me" and not to be "my" states. It follows that for Intuitionism colours, sounds, and other

so-called sensible qualities of things, are not mental states of the knowing subject but are a part of the external world. Does it mean then that Intuitionism leaves out of account facts established by Physiology which prove the dependence of sensations upon the structure and condition of the sense organs and of the nervous system of the knowing subject—the facts which apparently prove fatal to Naïve Realism?

The answer is that Intuitionism admits the facts established by Physiology but puts upon them an interpretation different from the one usually accepted. When the dependence of a sensation upon the bodily states of the knowing subject makes it impossible to believe that the sensible quality belongs to a thing outside my body, it by no means follows that the sensible quality is “my” mental state, *i.e.*, a modification of myself. It is a mistake to imagine that there are only two alternatives—namely, that the sensation is either a quality of the thing apprehended or a state of myself. As a matter of fact, there is a third possibility, which is indeed more in accordance with the physiological facts than the first two. It may be supposed that sensation is neither a quality of the thing apprehended nor my mental state but that it is a state of something which, in the act of apprehension, serves as a medium between the subject and the known object. Colours, sounds, tastes, smells, etc., might be the states of some lower centres of the nervous system. They would be developed there under an influence from without and would be apprehended by me immediately, that is to say, I would be aware of them just as they really exist in those lower centres. Such sensations would still belong to the sphere of the not-self, for the body forms part of the external world although it does stand nearer to the self than any other part of its environment. (Of course, the phrase “stands nearer to the self” should not be understood spatially—by proximity is meant simply a high degree and intensity of interaction.)

In my book *Intuitionism* this contention is expressed as

follows :—"Sensations belong to the sphere of the not-self, but they form part of the external world *within* and not *outside* the bodily organism of the knowing subject. The contradictory theories of the subjectivity of sensations and of their externality to the body (Naïve Realism) both, then, contain a certain degree of truth as well as of falsity. Those who refer sensation to the external world are right in doing so; but those who deny sensation to be the quality of a thing external to the body are equally right."

It cannot, however, be said that the content of sensation always results from a process within the bodily organism. The human body is similar to other bodies, even to the inorganic ones, and it must be admitted that many processes within it take place outside of it as well: certain contents of sensation may thus be external to the body of the knowing subject. This admission in no way contradicts the facts established by the physiology of the sense organs. Take, for instance, the case when different stimuli, x , y , z (electric current, ray of light, mechanical pressure) act upon the sense organ, and the subject is aware of one and the same sensation a . This fact in no way proves that a is a process within the body, and still less that a is a mental state of the knowing subject. The external stimuli, x , y , z (electric current, ray of light, mechanical pressure) are complex. It may well be that they each contain an element a which is exactly alike in all of them ($x = abc$, $y = ade$, $z = afg$) and is apprehended in the different cases.

The opposite case, when the same stimulus x is applied to different sense organs and, as a result, the subject becomes aware of different sense qualities, a , b , c , may perhaps be explained as follows: the external stimulus x is complex, it consists of a , b , c , and in the several cases the knowing subject apprehends its different aspects. The brain and the nervous system do not in any way create the images of the things apprehended, and the Physiology of the future must build an entirely new hypothesis to explain the part played in the process of apprehension by

the nervous centres and the sense organs.* Such a hypothesis will have to show that an external A is apprehended by means of the brain and the sense organs but is not produced by a physiological process in the sense organs or the nervous centres. It may be said, then, that even the so-called sensuous apprehension has a non-sensuous character. The sense organs merely direct the knowing mind to apprehend A , a feature in the external world; they do not create that A .

It must of course be remembered that in the case of the so-called sensuous apprehension, there is causal interaction between the human body and the external thing. As a result of it, processes arise within the body which may to some extent be apprehended together with the external object.

It often happens too that side by side with the non-causal co-ordination of the subject and the object (side by side with "contemplation") there is also causal interaction between them. Owing to such interaction the subject will experience some subjective affection—*e.g.* a feeling of satisfaction—and his apprehension of the object will be coloured by his awareness of that affection.

The state of apprehending, especially of apprehending the so-called sensuous things, may be very complex. It may contain—(1) elements belonging to the objective world outside the body, (2) elements belonging to the objective world within the body, and (3) subjective elements.

The critics of such a theory may say that it is a re-statement of Naïve Realism. There is some truth in this remark; Schuppe in his article "Die Bestätigung des naiven Realismus" admits it. He is in favour of returning to Naïve Realism, and in speaking of modern theories which tend in that direction, he observes that they re-introduce the Realism, but discard its

* Bergson strongly insists that the brain does not produce the images of the things apprehended. In *Matière et Mémoire* he formulates an interesting hypothesis about the part played by the brain in the process of apprehension.

naïve character. They do not ascribe external reality to objects uncritically; they are driven to it by an elaborate analysis of knowledge. Such a return to Naïve Realism is a widely spread movement in modern philosophy. In my forthcoming work *The Modern Theories of Knowledge* I shall attempt to describe the different forms it takes.

When the object is "given" to the knowing subject, knowledge of it involves more than the three elements enumerated above—the self, the content of consciousness and the co-ordination between them. As I have already said, there is also the activity of attention on the part of the self. Moreover, the epistemological co-ordination which results from the activity of attention is a necessary, but not a sufficient condition of knowledge. Simply to "have" something in consciousness, to be simply aware of something, is not knowledge.* I may be conscious of something (*e.g.* I may feel envy or be "bathed" in the blue of the sky as I lie on my back on the grass) and not know *that* I am conscious and especially not know *what* is the something I am conscious of. A content of consciousness may be unknown, either completely or at least in so far as I am not able to describe it. For instance, I may be aware that I experience some feeling, but be unable to decide whether it is envy or righteous anger. In order *to know* the content of his consciousness, the knowing subject must not only attend to it, but also mentally place the "given" content by the side of other contents, so as to compare it with them. Comparison gives rise to the perception of sameness and of difference which enables me to account for the content I "have" before my consciousness.

In my book *Intuitionism* this process is described as follows: "The object of knowledge is immanent in the process of cognition, it is reality itself, life itself present in and experienced through the act of knowing. But reality as such

* See my *Voluntarismus*, Chap. II.

is not knowledge ; it only becomes knowledge when the process of comparison is brought to bear upon it. Therefore knowledge is an experience compared with other experiences. Until reality is subject to comparison it flows before me as something dark, shapeless, unconscious (*i.e.* uncognised). If on a hot summer afternoon I walk on the river bank covered with luxurious vegetation and do not think of anything, do not wish for anything, seem to lose my personality and to become one with nature—nothing distinct exists for me, all things are merged in one confused, powerful stream of life. But now something splashes over the water, attracts my attention and the intellectual process of discriminating begins. The mirror-like surface of the water, the green banks, the reeds near the shore, begin to grow distinct from one another. And there is no end to this process of differentiation so long as I feel inclined to look into reality and to seek greater depths in it.

“The growth near the banks had appeared to me like a confused uniform mass and now the dark green of the reeds stands out against the lighter green of the sweet sedge, and even in the dark mass of the reeds their stems, leaves and dark brown brushes can be distinguished from one another by their colour, shape and position. As I go on discriminating, everything grows more distinct; the formless acquires form, the vague becomes definite.”

“Knowledge then is a process of differentiation of the real by means of comparison. By means of this process reality, without losing its real character, becomes a known reality, a presentation or an idea.”

To avoid misunderstanding it should be noted that the differentiation of the object is a result of discriminating and comparing, and this implies that the characteristics of the object are not created by me, but exist in the object and become distinctions for me when I recognise them. Suppose there are three things before me—SAP, SAD, SMN. So long as I have not distinguished them from one another and from other things,

I have no knowledge of them, they lie shrouded in the darkness of the unknown. If I distinguish *S*, the first stage of knowledge is attained; my knowledge, however, would be not of three things but only of one, *S*, common to them. The other features, though they exist in reality, would not be discriminated by my consciousness and would still remain dark for me. At the second stage of knowledge I would distinguish also *A* and *M* and would therefore have an idea of *SA*, *SA*, *SM*, and so on.

If as a result of this process we obtain the actual image of the object our purpose is reached—we have the truth. By “image” I do not mean a copy of the object but the object itself, with all its characteristics discriminated. In other words we only have truth when the differentiated image consists entirely of elements present in the object and nothing foreign is introduced into it. In this sense it can be said that truth is an objective image of a thing, and falsity a subjective image of it.

It follows that it would be impossible to distinguish truth from falsity if it were not for certain marks which enable us to determine which elements form part of the object and which are added on to it by the knowing subject. In other words every act of knowledge must contain aspects coloured by a feeling of subjectivity as well as aspects that have an objective character. One example is sufficient to prove that this really is the case. Suppose I am making up a story and relating for instance that there are four huge oak trees by the monument of Peter the Great in Petersburg. There is no doubt that the image of the monument stands before my consciousness as something which I do not in any way regard as a product of my own activities. The oak trees which I have seen somewhere before may also have the same objective character attaching to them. But the *conjunction* of the monument and the oaks is certainly felt to be an act of synthesis produced by myself and not to be contained in the object. On the contrary, when I say that the mounted figure

of Peter stands on a granite rock I am conscious that this conjunction emanates from the object itself.

It should be noted that objectivity is not identical with externality. My own activity may become an object of my knowledge, *e.g.*, I may recall my story about the monument and the oaks and it will stand over against me as something that I cannot undo. It will compel me to admit its presence and will bind me in an objective fashion in the act of judgment. Anything then which is "given to me" for contemplation can be described as objective, but the term external should be applied only to those "given" contents which are not experienced by me as the contemplated activities of my own self. The truth that results from the process of discriminating is always expressed in the form of a judgment, or in a form equivalent to a judgment in its meaning. Indeed the process of differentiating an object by means of comparison must inevitably pursue the following course. Until comparison is brought to bear upon it, reality appears to us dark and chaotic. The first act of discriminating separates out of it some aspect A . Reality as a whole still remains for us dark and confused but now one aspect of it is clearly and definitely characterised as A . This stage of knowledge is still preserved in language in the form of such expressions as "it rains," "it is dusk," etc. Through further acts of discriminating something vague but already defined on one side as A is now defined as B , something defined as AB is now described as C , and so on. For instance as I walk along a wood path I notice that something small darts across my way; that "the something small that darts across the way" squeaks, etc. Every such act of discriminating contains all the three elements considered necessary for a judgment—the subject, the predicate and the relation of the predicate to the subject. Indeed, in every act of discriminating and comparing there must be a starting point,—a confused reality, unknown as yet and therefore not described by any word. In more complex acts of know-

ledge the starting point is a reality some aspects of which have already become distinct; the act of discriminating separates out of this reality some fresh aspect, of which we are aware precisely as of an aspect of or an element in the part of reality under investigation. In this way there is preserved a living and intimate connection—closer than mere temporary sequence—between the point from which the discrimination started and the result obtained. It is clear then that since the process of knowledge is a process of discriminating and comparing, it must inevitably assume the form of judgment.

From the above description of the process of knowledge it is clear that if several successive acts of knowing are directed on one and the same object they will result in the formation of a concept as well as of judgments. Suppose that by means of the first act we learn that something is *S*; through the second we learn that *S* is *P*, through the third that *SP* is *M*, and so on. Features discriminated in the preceding judgments will be thought of as one complex mass of elements *S*, *SP*, *SPM*, on the background of a reality still undifferentiated. Every such complex arises out of a coming together of judgments, so to speak, and may again be broken up into judgments. But of course explicit acts of judgment do not necessarily precede the formation of such a complex. Sometimes the discriminated elements form a complex idea immediately, without passing through the explicit form of judgment. It may therefore be said that such ideas when they have an objective character (as for instance the images of perception or memory) are the abbreviated, *i.e.* the undeveloped, or the overdeveloped, complexes of judgments. Thus in the judgment "this tall thin man resembles my brother," the idea "this tall thin man" is a complex of undeveloped or of overdeveloped judgments—"this is a man," "this man is tall," etc.

I must now return to the question of the subject of judgment in order to prevent a dangerous misunderstanding. It

appears at first sight as if the subject of a developed judgment were an idea or a concept with a limited, strictly defined meaning. As a matter of fact this is not the case. The subject of every judgment is the dark, inexhaustible, unknown reality, but in a highly developed judgment it is referred to by means of some idea which designates the previously discriminated aspects of this reality. It therefore might easily seem as if this idea as such were the subject of the judgment.

According to the Intuitionist theory then the subject of judgment is that about which we are seeking to obtain information. Following the accepted use of the terms it is natural to describe that which our knowledge is about as the object of knowledge. Our theory then can be expressed thus: "The object of knowledge is the subject of judgment." The information obtained in any given judgment about the object of knowledge is expressed by the predicate and may be called the content of knowledge.

The theory that cognition is a process of discriminating and comparing features of the real easily settles the complicated question about analytic and synthetic judgments. According to the Intuitionist theory all judgments are in one respect analytic, and in another synthetic. In relation to the still unknown part of the subject, or, speaking generally, in relation to the still unknown portion of reality, every judgment has an analytic character. Thus, for instance, the judgment "this tall thin man is remarkably pale" is undoubtedly formed by a further differentiation — *i.e.*, analysis—of the subject which was at first described as 'this' (S), 'man' (M), 'tall' (N), 'thin' (R). But on the other hand if we look at the formula of this judgment—SMNR—P and confine attention to the already known part of the subject, characterised as SMNR, we shall see that the judgment was formed synthetically, *viz.*, by adding P to SMNR which do not in the least resemble P and could not by any analysis be made to yield P.

Every judgment is an analysis made by the individual of the hitherto unknown reality. But in relation to the already known aspects of an object every judgment is a synthesis. The analysis is the work of the knowing mind, but the synthetic connection between the known part of the subject and the predicate is "given" for contemplation by reality itself. Knowledge then consists in the mind's analysing reality and thus being able to trace synthetic connections that obtain in the real.

Analysis is the subjective side of knowledge, it is the mental activity of the knowing individual. The objective side of knowledge (the "given" in a judgment) is always a synthesis.

If the subjective and the objective sides of knowledge are not distinguished, hopeless difficulties and contradictions are bound to ensue. Let us dwell a little further on this point in order to show how important the distinction is.

We have seen that the process of judging contains the following three elements—the object of knowledge, the content of knowledge, and the act of knowledge. The meaning of the object and the content of knowledge has already been defined. By the act of knowledge are to be understood the activities of the knowing subject, attention and comparison, necessary for obtaining knowledge. There is a fundamental difference between the act of knowledge on the one hand and the object and content of knowledge on the other. The act of knowledge is the subjective, the mental and individual side of knowledge—the object and the content are the objective or logical side of knowledge.

The act of knowing is only a means to attain our end, viz., to get at the objective side of knowledge which contains the truth about the object.

The act of knowledge (attention and comparison) is always a state of the knowing subject. The object and the content of knowledge may form part of the external world. The act of knowledge is always a mental state; the content and object

of knowledge need not be mental. They may, for instance, be material processes (swinging of the pendulum) or ideas (idea of harmony).

The objective side of knowledge cannot be realised in human consciousness except by means of the subjective side (*i.e.* an act of knowledge). These two sides are always present together and on this account it is difficult to separate them in thought in spite of the great difference between them. We imagine that they form an inseparable whole, and we tend to transfer the characteristics of the act of knowledge to the object and content or, in other words, to transfer the characteristics of the subjective side of knowledge to its objective side. This tendency, together with the erroneous view that there can be no empirical knowledge without causal interaction between subject and object, lie at the root of theories which affirm that knowledge consists exclusively of mental processes (Descartes, Leibniz, Locke, Berkeley, Hume, Kant), that the object of knowledge must be mental (Berkeley) and that the knowing subject can only know his own mental states (Hume's solipsism).

To transfer the characteristics of the subjective side of knowledge to its objective side is an error extremely dangerous to Epistemology. In order to avoid it, it is necessary to consider various examples of it. I will point out, for instance, what results from transferring the spatial and temporal characteristics of the act to the content of knowledge.

The act of apprehension, *i.e.* the activity of attending and comparing, is not spatial in character. But the object on which attention is directed may well be extended. It would be absurd to say that the act of apprehending a mountain must itself be the size of a mountain. But it would be equally erroneous to assert that a mountain as the content of a presentation is unextended. The doctrine that our ideas of extended things are unextended caused to the philosophers of the eighteenth century a great deal of trouble over the insoluble question as to how the unextended mental states of the knowing

subject can give him knowledge of extended things. But this difficulty is the result of a misunderstanding. It is due to transferring the characteristics of the act of knowledge (attending and comparing) to the content and object of knowledge.

Still more dangerous are the errors that arise from transferring the temporal characteristics of the act of knowledge to the objective side of knowledge. An act of knowledge is an event taking place in time, at the moment of perceiving, judging, etc. Hence we are led to imagine that the object and content of knowledge must also be an event taking place at the moment of perception and that things come into existence and disappear contemporaneously with the acts of perceiving. According to Hume we have no immediate experience which could prove that things exist when they are not perceived. To assert that they do so exist would be equivalent to saying that "the senses continue to operate even after they have ceased all manner of operation,"* that the eye continues to see a thing when it sees it no longer. Hume maintains that the discontinuity of perception prevents us from having any experience of a continuous existence and that reason has no material for making inferences about such an existence.

Hume's argument is an example of transferring the characteristics of the subjective side of knowledge to its objective side. If the two sides are distinguished there will obviously be no foundation for denying that the object of my attention at the present moment may be an event which takes place at some other moment, in the past or in the future. An act of knowledge may last a second, but its object may be a process lasting a minute, an hour, a year, several centuries. We are continually making use of the power to contemplate that which at the given moment no longer exists—without it we could not, for instance, perceive movement. Without it not a single datum of memory would be of value for knowledge. This last

* *Treatise*, Part IV, § 2.

consideration is usually overlooked, but the validity of knowledge cannot be established without reference to the importance of memory.

The difference between the object and the act of knowledge may be greater still. The object may be altogether devoid of temporal character. It may belong to the sphere of being and not to that of becoming and stand outside the stream of change as something timeless. Nevertheless the attention of the knowing subject may be concentrated upon it. There is no reason why the eternal (the timeless) being should not be an object of contemplation. The act of contemplation may last one second, but that which is contemplated may be eternal.

Intuitionism comes back to the doctrine of the contemplation of ideas which dates from Plato. If the temporal be called "real being" and the non-temporal "ideal being" it may be said that according to the Intuitionist theory both may be objects of knowledge.

One case of confusion between the objective and subjective sides of knowledge should now be considered; it is of special importance to Logic. The subjective side of knowledge contains comparison which results in identification and distinction, *i.e.*, in analysis. To carry out this mental process we must have something with which the content of consciousness is compared and from which it is distinguished. A thinker who does not draw a distinction between the act and the object of knowledge will be convinced that the meaning of a judgment lies simply in discovering identity or contradiction between the compared contents. It will further appear to him that the whole of what has been compared must enter into the judgment and that the subject and predicate are the two contents compared. Judgment will then consist in observing identity or contradiction between subject and predicate. According to one form of this doctrine, the subject of the judgment "this rose is red" is my perception of a red rose, and the predicate

is added on to the subject through partial identification of my idea of red colour with my perception of "this red rose."

Logicians and Epistemologists who take this view of judgment hold that inference is also based on the discovery of identity (or contradiction) between the premisses and the conclusion or between parts of the premisses. Now, this view implies the Rationalistic doctrine that the connection between ground and consequence should only be called logical when it is analytically necessary. Some of the thinkers in question expressly uphold this doctrine, while most of them are even unaware of holding it. At the same time they tend to lay stress on the analytical laws of thought, viz., the laws of Identity, of Contradiction, and of the Excluded Middle. They either disregard the principle of Sufficient Reason or transform it simply into a complex of analytic laws treating it as a law which declares that there is a sufficient reason only for the judgments that follow from their grounds with analytic necessity. But we have already seen that analytic necessity which is of value for knowledge is always based upon synthetic necessity. At the basis of analysis which gives us truth there always lies a synthesis which contains truth. An interpretation of judgment and inference which reduces them to an analytical formula "wherever there is SP, there is P," has an artificial character. As a matter of fact, all judgments are synthetic and can be expressed by the formula "where there is S, there is P."

An act of knowledge is, then, contemplation accompanied by comparison, *i.e.*, by analysis, but judgment is synthetic in character and is not confined to the discovery of identity and difference between subject and predicate. How is this possible? To understand it we must distinguish the subjective and the objective side of judgment. The first, *i.e.*, the process of comparing, distinguishing, analysing, is only a psychological scaffolding necessary in order that I might become aware of

the differences and the connections between elements of the world. It enables me to separate the object that interests me out of its environment and to find out what are its characteristics—to learn, *e.g.*, that P is necessarily present wherever the object S is found. That *from which* I distinguish the part of the world “S is P” does not form part of the judgment; it is merely a background against which the “S is P” that is of interest to me stands out in relief. Thus, in answering (to myself or to others) the question as to the colour of “this rose” I distinguish this rose (S) by its colour from other roses or from its surroundings, and say that it is red. By comparing this rose with other roses I discriminate a fresh quality in it, redness (P), and discover that the redness belongs to “this” rose and not to some other part of the reality before me; the relation between this rose and redness is singled out from all other relations before me. The judgment contains S, P, and their connection, but not the elements with which they were compared.

Judgment then is an analysis which brings out for contemplation the synthetic necessity of sequence between parts of reality. The relation between the subject and the predicate is not identity or contradiction but a synthetic necessity of sequence. In order to emphasise this fact it is advisable to express judgment by means of the formula “wherever there is S, there must be P.” The relation expressed by this formula is found under many forms, for instance under the form of causal connection, of mathematical functional dependence (*e.g.*, between the size of a side of the square and its surface), of the connection between a motive and an action, etc. The term functional dependence might be selected as a genus term for all the species of the relation which consists in a certain x being necessarily connected with y . Such a relation subsists between the subject and predicate of a judgment and between the premisses and the conclusion of an inference. As an element in judgment and inference it may be called a logical

relation or the relation of ground and consequence which has a synthetic and not an analytic character.*

To avoid misunderstanding it should be noted that from the point of view of Intuitionism there is no essential difference between the logical and the ontological functional relation. Suppose that between the real elements S and P there is a causal relation; in so far as it enters into a judgment it is a logical relation or the relation of ground and consequence. Generally speaking the word "logical" is applied by Intuitionism to the objective content of judgment in so far as it furnishes the ground for the general elementary methods of establishing the validity of judgment. But since the objective content of judgment is according to Intuitionism reality itself, Ontology and Logic come very near together. A fact (*e.g.*, functional relation) considered apart from the mental activities of the knowing subject is ontologically real. The same fact in so far as it becomes the content of judgment forms its logical side.

At first sight it seems as if all judgments could not be expressed by the synthetic formula, and that the relation of subject and predicate was not always that of ground and consequence. Thus it may seem that in the case of judgments of identity the relation between the subject and predicate is that of identity. But as a matter of fact this is not the case. The meaning of the judgment "the magnitudes A and B are identical" is that, "given the magnitudes A and B, there is also given the relation of identity between them." In such judgments identity is the predicate and not the relation between the subject and the predicate. The symbolic language of Mathematics strengthens our tendency to misinterpret the judgments of identity. The formula $A = B$ makes us imagine that B is the predicate and that the sign of equation expresses the logical relation between the subject and the predicate.

* The view that the relation of subject and predicate is the relation of ground and consequence is worked out in a masterly way in Lipps' *Foundations of Logic*, § 82.

In truth the subject of such judgments is "the relation, unknown to me until I discover the predicate, between the magnitudes A and B" and the predicate is "the relation of identity." The logical relation between the two is the synthetic necessity of dependence, *i.e.*, the relation of ground and consequence.

It is important to note that judgments of perception stating some single fact ("this rose is red") contain the necessary connection of ground and consequence just as much as do the Apodeictic judgments of Mathematics. To understand how this is possible and to see what are the characteristic peculiarities of such judgments, we must note the following circumstance. The relations of synthetic necessity of dependence form in the world an endless chain consisting of an innumerable number of links: $S-M-N-P-R \dots$ Even if we take two links that do not lie side by side, for instance S and R, the relation between them will still be the necessary relation of ground and consequence. But when we express this fact we do so blindly, submitting to a necessity we do not understand, for we are not aware of all the intermediate links. Judgments of perception (the object of which is real, not ideal being) generally have such a character. If after I have had a look at the garden I come back and say "the rose bush on the round bed is withered" this judgment will be no less necessary than the judgment "the sum of the angles of this isosceles triangle equals two right angles." If the subjects of these two judgments are given to me I cannot but add to them their predicates—and this means that in both cases the subject contains the ground of the predicate. In each case the subject is an infinitely rich and complex part of reality, and is known, or differentiated in the consciousness of the knowing individual, only to a certain extent. The difference between the two judgments is solely in the elements of the subjects that have been discriminated. The only features discriminated in the subject of the first judgment are that it is

“a rose bush” and that it grows “on the round bed.” Let us take these two features and consider them in abstraction from all the richness and fulness of the living subject “this bush.” It will at once be apparent that they contain nothing which compels us to add to them the predicate “is withered.” The known aspects of the subject do not fully contain the ground of the predicate. This ground then is hidden in the uncognised depths of the subject. It must be hidden there, for otherwise we should not feel compelled to ascribe the predicate to “this bush.” If we could trace the structure of all the tissues of this bush and all the physiological processes in them, the ground of the predicate would come into the light of knowledge.

The second judgment has a different character. In it the ground of the predicate is contained in the differentiated aspect of the subject. Indeed the subject is differentiated more than is necessary. The triangle need not be isosceles nor “this” triangle. If there is a surface and three straight lines on it that cross at any angle and enclose the surface, the sum of the angles must equal two right angles.

There are then two kinds of judgment. In some the predicate follows from the unknown aspects of the subject and only a vague awareness of the connection as a whole warrants the belief that the predicate really has its ground in the subject. If the discriminated aspect of the subject is abstracted from the rest and attention is confined to it alone we shall clearly see that it does not compel us to add on to it the predicate. This is true of most judgments of perception. In other judgments the predicate follows from the known aspect of the subject and therefore even if that aspect is considered in abstraction, the predicate is seen to follow from it of necessity. This is the case with the judgments of highly developed sciences—mathematics, for instance.

Minds inclined to attend chiefly to the known aspects of things look down upon judgments of perception and even

distrust them. This is natural, since the known side of the subject in such judgments does not contain the ground of the predicate. On the other hand, a mind sensitive to the living concrete reality in all its fulness—the mind of the artist, for instance—is more apt to see the necessity of judgments of perception than of abstract scientific statements. As a matter of fact, however, both kinds of judgment are equally necessary and the difference between them is simply in the degree in which the subject has been differentiated. But since the ideal of knowledge is that all aspects of reality should be known, it must be said that judgments of the first kind, though containing some truth, fall short of the ideal—they are undeveloped. In a fully developed true judgment the predicate should follow from the known aspects of the subject.

According to this view of the connection between subject and predicate, in a true judgment the subject contains a full, *i.e.* a sufficient, reason for the predicate. This statement is simply the law of sufficient reason understood as a synthetic logical law. This law governs the relation between the subject and predicate of judgment as well as the relation between judgments. If a judgment is deduced from other judgments there is a sufficient reason for it in their objective content.

The sign whereby we can discover the presence of a sufficient reason is that the predicate (or the conclusion) follows from the objective content of the subject (or of the premisses) without any intervention on the part of the knowing mind. All that is left for the individual is passively to follow what the content of the subject compels him to admit. The whole content of such a judgment is in the true sense objective, that is to say, it springs from the nature of the object known. The criterion of truth, then, is the presence in knowledge of the reality we are striving to know.

It is undoubtedly present whenever the content of knowledge is “given” to me and not produced by an activity felt

to be my subjective effort. It is present whenever the content develops independently of me and I merely follow it, concentrating my attention upon it, and differentiate it by means of comparison.

It follows that thought (*i.e.* contemplation accompanied by analysis and comparison) can lead to nothing but truth. It never results in error, for the content of the subject of judgment can never "require" anything that is not functionally dependent upon it. Error arises when the knowing subject, instead of following an objective synthesis, creates a synthesis of his own. In that case, however, we have to deal not with thinking, but with some other subjective activity—imagining and such like. The assertion does not deserve to be called a judgment, for its elements are connected by "my" subjective efforts, and not by the objective connection of ground and consequence. Error, then, is always a result of unconsciously substituting imagination or some other activity for thinking.

The above description of the structure of judgment easily explains the most important properties of truth—its universality (*i.e.* independence of the knowing subject), identity and eternity. The objective contents of judgment are elements of reality itself, and not its copies or symbols. Hence, whenever different people (or the same person at different times) form a judgment about any object *A* (*e.g.*, "Peter the Great died in 1725") the objective content of their judgment is identical, it is one and the same *A*. The subjective side of knowledge, *i.e.* the mental act of judging, may be very different and changeable, but the object of the knowledge is the same. The objective side of knowledge, *i.e.* the truth expressed in it, is therefore universal, identical and eternal.

VI.—SOME NEW ENCYCLOPÆDISTS ON LOGIC.

By J. BROUGH.

THE kind of appreciation invited by the editors of the *Encyclopædia of Philosophy* now appearing is one in which the outline and general estimate of contents may become to some extent the statement of a definite philosophic problem. There is promised to us a treatment of several philosophical sciences, each by several philosophers; and the volume on Logic is only the first of several volumes that are to follow. The editors quote and adopt the description of philosophy given by Hegel—

“The whole exhibits itself as a circle of circles, every one of which is a necessary moment of it, so that the system of their particular elements constitutes the whole Idea, which also appears in each of the particulars.”

Whether there is an intelligible unity of subject in this volume, and whether in the conception of Logic there appears the philosophical Idea in the Hegelian sense, is left to the critic rather than the authors to make explicit. Each contributor is working, as the editor claims, for “the idea of unity,” and each as a matter of fact attempts the outline of logical system, or at any rate a very comprehensive problem within an assumed system. But there are different “points of departure” and “paths which lead towards unity,” and the *Encyclopædia* undertakes merely to “take us into the innermost workshop of thought and leave it to the individual to observe the lines of direction followed by these independent thinkers.”

I presume that it is for the individual to bring to such unity as his own conceptions may allow the several contributions

he may find here ; and not necessarily on the basic assumptions made by any one of the thinkers, or even common to all of them. And with this presumption, I accept the invitation conveyed and the task imposed ; and I will try to bring to notice the lines of direction followed by these independent thinkers, not quite impartially or completely, but with the confessed bias of an individual interest, and as contributions towards a special kind of unity and idea of Logic which is outside the volume, and indeed outside the currents and eddies of philosophic opinion altogether. This is the idea or interest which led to the collection, during a now remote and legendary era, of rules observed by religious devotees in the consultation of their oracles and the government of their personal thoughts. "To know the way of right notions," they said, "is itself on the way of ultimate blessedness." We may stretch hands across the centuries to the primitive logicians ; because although their mode of piety and their speculations may seem fantastic in modern life and thought, we still feel the same radical need. We need, not a mere propædæutic to philosophy, nor a mere refinement in scientific abstraction, nor an arbitration court for controversial opinions, but a scheme for controlling knowledge as a factor in our spiritual life, through self-consciousness. In response to an enquiry made by some modern "men of the street," I have elaborated this conception of logical unity in a booklet published several years ago on the *Study of Mental Science*, to which I must refer for any fuller explanation.

If we recall the conclusion reached by the late Professor Adamson after reviewing logical history from a specially philosophic standpoint, we can scarcely consider the practical standpoint much more hopeless.

"In tone, in method, in aim, in fundamental principles, in extent of field, the systems diverge so widely as to appear not so many different expositions of the same science, but so many different sciences. . . . We must resign the hope of attaining

by any empirical consideration of received doctrine a precise determination of the nature and limits of logical theory" (*History of Logic*, p. 20). Where there is not unity in a theoretical principle, there may still be unity in an intellectual need.

As at the date of this proceeding the customary Press notices have not as yet appeared, I must begin with a brief description of the several essays, though in a sequence not exactly as printed. Only Windelband covers a wide enough area of topics to suggest the possibility of so delineating Logic as not to rule out some contents of other essays, while not incorporating them or their equivalents blindly. His proposal is even more comprehensive than the programme suggested by Adamson, which was "the analysis of knowledge as such, its significance and constitution, in opposition to the quasi-historical or genetic account for which the title psychological should be retained" (*ibid.*, p. 160). For Windelband includes a psychological doctrine as an essential basement to other levels of enquiry. "An exhaustive solution of the great aggregate of logical problems can only grow up out of the union of all the different methods of treatment to which Logic has been subjected in virtue of the inner essential manifoldness of its nature."

I. He proposes, therefore, a Phenomenology of knowledge, including the familiar processes of individual consciousness when we experience the fact of knowledge, the psychological abstractions from this experience, and the historical forms in which science has recorded experiences.

II. He then offers a theory of norms or self-sufficient principles of constraint, a scheme for the valuation of such actual thoughts as we may become conscious of; and so a guide for all thought that "professes to be perception and hopes to become knowledge." This is the main track of all Logic, but he marks the most modern stage in its history, inaugurated with Lotze, by carrying it not only through the series of discursive or reflective relations between our thoughts, the concept, the judgment and the syllogism, which had satisfied Kant and

Hamilton and other logicians down to the middle nineteenth century, but also through those constitutive categories or objective relations which had been found by Kant embodied in these concepts and judgments, but which Kant had transferred to Epistemology, and which in part Mill had replaced and popularised in Inductive Methodology.

III. He passes on to Methodology, a technical discipline which, he says, "makes clear the different applications" which appear in the special sciences "of the logical forms and norms" discussed in the previous part of Logic, "as they are brought together to serve some particular end." Such "applications" are either of the norms discovered in the "reflective" relations between our thoughts, or of those called "constitutive" categories, which, as we have noticed, our newer Logic borrows from the Kantian Epistemology and links up with the Inductive Analysis as described by Mill. There are consequently two branches of Methodology, the universal or the theory of Proof, and the special, or theory of Inference; meaning by Inference as distinct from Proof, the objective synthesis of conceptions, whether these conceptions be furnished *a priori*, as in the case of Mathematics, or empirically, as in the experimental sciences. The advance on Mill is mainly that, instead of confronting the psychical fact of thought with physical reality in all its brutal incongruity, he brings forward the element of objective coercion, recognized of late by even psychology itself as somehow entering into consciousness.

IV. The programme ends with a theory of this coercion by the object, a tracing of the border line, if any, between this and the brutal reality, a peering, as it were, over the frontiers of knowledge. Whether this should be called Epistemology or Metaphysics may be indifferent. He supplements the twofold division of Methodology by a twofold description of reality, the valid in itself and the existent in itself.

These four departments of Logic are brought to unity by Windelband in defining it as the Theory of Theoretical Reason. Its

object is to discover "how far general postulates of theoretical," as distinguished from practical or æsthetic, "reason, which are independent of the specific conditions" or transient circumstances "of humanity and which find their justification entirely in themselves, have attained to consciousness and effective value." The different points of view from which Logic can be treated are an advance from the empirical description of reason in its function and manifestations, to an estimate of value for its actual achievements. Such a plan may at first sight be unattractive to a scientific purist who wishes to see an ordered array of definitions, axioms, postulates, and operations, as exemplified in Couturat's subsequent essay on Algorithmic Logic; or to a philosophical purist who wishes by systematic analysis to reveal the ultimate goal of knowledge, the one and all, without interesting himself in the tortuousness of mere approaching, as is exemplified by Croce in a subsequent essay. And even to the devotee who looks neither for a science nor a philosophy, but only for a discipline of what I have elsewhere called the sense of method, and what Windelband in one passage calls the sense of truth-value, bringing home to his consciousness the significance of self-control in thinking, there might well arise the question: Is there not some one proper mode of perception or effort of attention, co-ordinate in function with our synthetic construction of number and figure, or with our perceptual selection from the multiplicity of sense impressions; simple in nature even if systematic in development, which is in the service of my motive, as intuition and observation are in theirs?

Croce, in his essay on the *Task of Logic*, proposes to give systematic expression to a simple constituent that enters into all our knowledge, though not in itself a body of knowledge, which he names the Concept. It is not the classificatory concept of Natural Science, nor the abstract concept of Mathematics. It is the pure unity of the individual and the universal, and of thought and reality. It falls into line with History

rather than with Poetry or Science, because it raises to the highest power the universal in the same unity where History emphasizes the individual. Logic is the science of the Concept. But the standpoint of our primitive motive would dissolve away, if the distinction between self and reality were surrendered, as it is here. Our hope is to escape by unceasing discipline from the trouble of this abiding difference. And I must pass to those expositions which take their stand on ultimate duality.

Whatever our faculty of logical insight may be, it is not in itself what forms the starting point of sciences, belief. And perhaps for its development we need not follow docilely the way of a science, and certainly not a single method. But we may adopt the plan of bringing together contributions from psychology, from the verbal expression of logical insight itself, from scientific reading, and from philosophy, in such a sequence as to mark out and systematize the exercise of the faculty, taking care that these contributions are really co-operative in a timely relevance to the effort of logical insight; and perhaps showing, as Windelband does, "the systematic inter-connection of the whole, and the right and the limitations of the right, of each one of the individual standpoints." Windelband considers that this latter feature is a confirmation of his own method. But, after all, if the ancient complaint against Logic that, like the moon, it is always waxing and waning, is to be decisively met, it must be by appealing to the primitive motive as final criterion, rather than to any division of the field of general philosophy. And I would repudiate the "weakness and indecision" which Windelband attributes to Eclecticism, provided the eclecticism be relevant to the motive.

Losskij's Essay is on the transformation of the concept of Consciousness that is taking place in modern Epistemology, and its bearing on Logic. Consciousness has come to be regarded, not as "the sum total of the *psychical* states of the *individual*, or more exactly, of the psychical states of which he is *aware*,"

but as "the sum total of everything which stands in a certain unique *relation* to the Ego"; of every content whether an experience or an object, that is to say whether the relation is a "self-expression," a manifestation of sheer vitality in the Ego, such as joy, wish, or is an "epistemological co-ordination," such as the remembrance of the joy or wish. The act of attention and comparison is related in the first manner and is studied by Psychology; a truth is related also in the second way, and must be studied by Logic. Judgment is the meeting point of the two aspects of the relation; and the chief consequence of our new concept in Philosophy is that Logic must adapt itself to the sphere so assigned. But the co-ordinated content is a system over and against the individual, and so Logic must always find in a judgment a ground and a consequent. It must show how "Cognition, as a work of analysis performed by the individual, leads to *the tracing out of the system of synthesized relations which constitutes the object*" (p. 249). Losskij thinks that our prevalent doctrines evade this problem of synthesis. They assume a dualistic mode of synthesis, intuition and experience; or else they present every synthesis as hypothetical, and all knowledge as uncertain. The new Logic must reveal the synthetical necessity of the combination of content in a judgment, must reduce intuition and perception to one and the same principle, and recognize a wider and more fruitful field for synthetical formulæ than that occupied by the Syllogism.

In this doctrine of judgment, Logic approximates to the Ontology implied in the new doctrine of Consciousness. Ontology studies connection apart from a cognitive act; Logic connection as revealed in cognition.

But does not Losskij's realism suggest a further mediating science to relate the cognitive act to its potential contents? Should not we begin with that organization within the Ego in virtue of which the activities it simply has can enter upon that which is "given"? The notion of consciousness does not in

itself explain the transformation of attention and comparison into a revelation of ontological connections.

Enriques, in an essay entitled *The Problems of Logic*, discusses how far knowledge as found in the Sciences, and specially in the abstract sciences, is in touch with reality. Logic is regarded as the *theory* of those "*mental processes*" which we denote by the term "rational" . . . to analyse and correct the different conceptual structures, and the marks by which, in an evaluation, they are recognized as valid. He entitles his enquiry a Critical Positivism. In scrutinizing knowledge, Logic finds certain "objects," and these objects appear to have been constituted on certain "principles." The "objects" are either things, abstracta from them or from relations between them, potential things and relations, or symbols expressing the possibility of any of the preceding objects. They are all constructed on the principles of Identity, Contradiction, and Excluded Middle, so as to be timeless, and at once therefore must be marked off from actuality. But when given they become elements in new concepts arising through certain operations and made stable by definitions.

Logic gives schemata for the operations and for resultant conceptual relations as found in scientific and in ordinary thought, the most essential schemata being class-membership and conceptual equivalence. Thus at a second remove, as it were, from reality, logical schemata represent Scientific thought at the first remove, which in itself is valid. "Those axioms which state the laws of the operations and the properties of classes created by thought, also sum up the properties of the classes or organisms which correspond to these in reality." But at this first remove from reality, the principles on which the original objects are constituted correspond only approximately to the real flux of things and relations, and the operations and conceptual relations are so motivated as to attain real significance only progressively. More adequate to reality

than other concepts are such as Natural Kinds, Physical Laws, and Substance and Cause.

But this motivation which Enriques refers to must surely call for a special analysis in Logic. Our attention is invited by an infinite variety of things, abstracta and potentialities. What are the elements in our personality that favour the more approximative selections, and the more progressive operations?

Royce, under the title *The Principles of Logic*, undertakes a "theory of the Forms, the Categories, the Types of Order, which characterize any realm of objects, real or ideal." In an opening section the witness of Methodology is taken that in the objects about which we think, there are features upon which the possibility and success of definite scientific methods depend. Science passes through a development beginning with efforts at Classification, and ascending either to comparison of situations in evolutionary series of natural processes and products, or to the collection and enumeration of facts with a view to inductive analysis of the aggregate unities; and finally reaches an organized combination of Theory and Experience. The series and aggregates are taken as indicating a determinable constitution or law in Nature, and our guesses as to this law are more or less near the truth according to the impartiality with which selected instances are verified in actuality. Deductive theories, especially those defined in precise quantitative terms, such as the Newtonian theory of Gravitation, furnish samples of possible consequences, that is to say impartially selected members in a vast aggregate of possible facts, which can be assured as true in actuality. Thus Logic must proceed to the study of types of order, such as Series, Correlations of Series, Quantitative systems, which our thought must find or invent, as clues to the synthetic structure of reality.

In his second section, Royce exhibits these "entities" of the purely logical realm apart from "the probable and approximate exemplifications which they get in the physical

world," though he is in search for "the sources of their fecundity as guides to physical verification." It is Relation and Class that are the beginning of scientific wisdom. A relation is a character that an object possesses by virtue of its membership of a collection; a Class appears to be the unity of Individual Objects, Class-membership, Classificatory assertion, and Classificatory principle. Without individuals we can have no Classes, without Classes we can define no Relations, without relations we can have no Order. The Relations disclosed in the light of the conceptual entities vary in their inferential fecundity with the number of objects necessary to disclose them. They may be diadic, *e.g.*, equality; triadic, *e.g.*, sum or difference; tetradic, polyadic. Again they vary with the simplicity or multiplicity of the related terms: many against many, *e.g.*, latitude; one against many, *e.g.*, sovereignty; one against one, *e.g.*, superiority. And they may vary in their inward constitution: symmetrical, *e.g.*, equality; or one-sided, *e.g.*, superiority; transitive, *e.g.*, equality; or self-limited, *e.g.*, contrast. It is the relational properties and peculiarities that expand into the illimitable areas of deductive science. The syllogism of traditional Logic is a mere comment on the transitivity incidental to a certain relation between classes, the subsumptive; a relation which, I must here give warning, as Royce does not, arises on a level of metaphysical significance quite distinct from that of the properly scientific classifications; it is a relation created, not disclosed, by thought, a relation between entities that are merely logical.

The third section discusses such different levels of significance. That there should be classes and that these should disclose relations, and that relational properties should expand into deductive science is guaranteed by the idea of rational activity, or, as Royce entitles it, by Absolute Pragmatism. It is in action that we become conscious of the logical entities. And the crowning task of the Theory of Order is to determine how far the specific contents of our logical forms are guaranteed

in the same way. "The modes of action conform to the same logical laws to which classes and propositions conform." And Royce believes that a Calculus of Modes of Action can be constructed, including, besides principles corresponding to those of the Calculus of Propositions and Classifications, a principle special to "rational beings who are able to reflect upon and record their modes of action," and which, superseding the axioms and postulates of Mathematics, will guarantee the synthetic intuitions of content, as well as the logical forms.

Royce's theory so unmask the inward organization of thinking personality, that at the gate to its paradise of truth stands the Will. Rational Will opens to us alternative paths towards reassurance. Reflective Will furnishes us with synthetic conditions for recognizing reassurance when we find it; while Arbitrary Will defines, apparently at random, synthetic selections from among contingent elements of experience, which we may hope to find verified somewhere. The conception of Reflective Will is, however, admittedly so tentative that Logic may leave to Epistemology the task of comparing it with that of intellectual Intuition, which it is intended to supersede. The conception of Arbitrary Will deepens rather than solves the mystery of selecting the abstracta or principles of empirical classification. And the conception of Rational Will does indeed suggest a more complete ideal for Logical theory than Reason alone may do. But is there any allurements in Reason which persuades the Will to become rational, outside the mediation of our personality? If there is not, Reason must have its separate provision in the constitution of our personality, and not borrow all from another faculty. If there is, we may find it in the lineaments of Reason as drawn in the new symbols.

Couturat's essay is, like Windelband's and Royce's, entitled *The Principles of Logic*. He offers a convenient outline of symbolic system, not as the standard system, nor as accomplishing more than a clearer, more precise and more plastic expression of fundamental logical conceptions and relationships

than is possible by the use of mere terminology. The imperfections which he confesses are rather in the way of circular definitions and demonstrations, than in any misreadings of consciousness. He begins by defining Implication in terms of one of the two notions, "or" and "and," representing respectively a logical sum and a logical product. Equivalence is then defined in terms of implication; Negation, by means of logical product and sum, together with the notions "true" and "false." But we might, instead of this, treat negation as not needing definition; and then we could define the "and," or alternatively the "or," without assuming both of them as ultimate. Once having obtained definitions and axioms, he proceeds to "prove" or "demonstrate" from them the formulæ of logical equivalence. Similarly the mutual relation of propositional functions, variable terms, and classes, having been settled by definition, he indicates for Logic a theory of propositional functions which is deducible under some special axioms, and another of concepts, considered not as ordinary Logic considers them, in their mental possibility and validity, but as equivalent to classes. Finally relation is defined by reference to propositional function and to variables; and though Couturat does not, as some logisticians do, veil the significance of relations by treating them merely in extension, that is to say, as classes, his interest is mainly that equivalences should be established and transformations legitimized, between relations, propositional functions and concepts. And pure Logic being thus a skeleton system of truth, rather than a description of true thinking, it imposes a constraint on the physical sciences. "It now remains to ask," he says, "What is demonstration? It consists in deducing from given premisses or hypotheses the consequences or conclusions which they formally imply in virtue of the laws of Logic . . . these furnish the formula or type for every elementary deduction, though they do not appear in it as constitutive premisses. . . Logic guarantees the necessary consequences, though it is neither the

source nor the judge of the truth of the premisses which are taken as fundamental."

Now in order to deface any allurements for the Will which Reason may be credited with merely because its expression is rational, I would like to challenge the method and issue of this by denying roundly that demonstrative Logic can guarantee the truth of any proposition whatever, whether antecedent to or consequent on, another. And even if it can do so, the primitive motive does not demand guarantees. What it demands is that our convictions shall be so suffused with consciousness as to make for intellectual salvation.

If we may not trust our souls to the scientific spirit on its own level of activity, we may not trust any patronage extended to it from a celestial realm of logical entities. The value of demonstration, whether in the new Logistic or in the old formal Logic, is merely that of a vehicle for the description and arrangement of logical conceptions. It gives points of orientation in a realm where at the points themselves validity is not directly in question.

And I fall back finally on an eclecticism in method, and shall now review the four departments of doctrine systematized by Windelband, in the light of my postulated motive.

I. Phenomenology of Knowledge.

The survey of facts of mental life that are of the nature of knowledge has at least a relevance to our logical perception similar to that which physiology has to psychology. Psychology abounds with definitions borrowed from physiology, and in turn Psychology fixes distinctions within logical insight. Windelband says "Every logician, in order to safeguard his own enquiry and ensure absence of ambiguity, must begin by defining as clearly as possible the fundamental psychological concepts which he requires." Windelband especially calls for a psychological doctrine of assent; the union in judgment of a

conceived content and an attitude towards its truth-value. It is where this attitude occurs that we see the logical contrast of affirmation with negation, the recognition of evidence, the gradation from opinion to knowledge, all of which are uniquely logical perceptions that may be made conscious under the discipline of Logic. And again the social sympathies in cognition, as described psychologically, connect themselves with the universal authority of truth, which is a logical perception; and also with the forms of expression in speech, which latter have been far too superficially interpreted by logicians in the past, under the influence of Nominalism.

If Windelband is right in saying that every logician must begin by defining psychological concepts, a critic of this volume cannot ignore the fact that not one of the other essayists explicitly does so. The gulf lies wide indeed between the present volume and the declaration made by Mill in the latest verdict he passed on the contested methods of Logic :

“It is not a science distinct from, and co-ordinate with, Psychology. So far as it is a science at all, it is a part, or branch, of Psychology; differing from it, on the one hand, as a part differs from the whole, and on the other, as an Art differs from a Science” (*Examination of Hamilton*, p. 461).

If Windelband had treated Psychological Logic as a mere step in our progress towards a better, as, say Locke's Epistemology may be treated as a step towards Kant's, we might think it had now perished naturally, and another taken its place. But as I understand his statement that “the different points of view from which Logic can be and has been treated are the necessary stages of its advance,” I understand advance to mean not historical progress, but internal architecture of topics.

A Psychology that is casual or implicit is, however, used by several of the essayists; by Enriques, Losskij, and Royce. Enriques undertakes a kind of Logic which “adopting psychologically an ejective point of view, proceeds to search

out and compare, to analyse and correct the different conceptual structures, and the marks by which, in an evaluation, they are recognised as valid." This is an enterprise very different from Windelband's, for the latter would by no means interpret psychology so ejectively as to take conceptual structures for granted. He would ask, Is a conceptual structure the psychological occasion on which the feeling or impulse arises which constitutes our attitude towards truth-value, or is it not rather the goal of this impulse? Enriques, indeed, speaks of concepts as being formed by "logical operations," and he opens his investigation with a list of the "objects" with which the logical operations must start. But it is clear that "operations" are not to be defined psychologically, but by the nature of the products, and that there is little difference between Enrique's treatment of thought and the system outlined by Couturat, which is the antithesis of psychological reference.

Couturat seems to assume that we already oversee the vistas of truth, and need only to proceed to distinguish within them points such as implications, summations, alternatives, equivalences, functions, classes and relations; which we can do by referring them one to another. But just as there is no aid in Algebra for an animal who does not understand Arithmetic, so the devotee who doubts whether his thoughts are in the realm of truth, or if they are, how they came there, will find no aid in Logistic; at least, no aid in converting the act of thought into an act of knowledge. Couturat does indeed, as well as Windelband, offer a method of escaping from the tyranny of concrete speech, the dependence of Logic on Grammar; but the one escape is by symbols, the other by psychological definitions. Yet the symbolic schemes, as elaborations of syllogistic Logic, depend for their real value on psychological distinctions that arise during the co-operation of different thinkers in the labour of ascertaining truth. They are a technique for a special department of inference which, in another essay than the

present one, I have on the authority of Mill named Interpretative, as distinct from Evidentiary, Inference. Such a technique necessarily pervades a Logic which originated in schools and streets and halls of debate rather than among shrines and hermitages. Aristotle embodied it in the symbolic forms of Immediate, Syllogistic, and Inductive Inference. It enables the individual thinker to enter upon the heritage of work already achieved, by orientating his own conceptions with reference to those provided for him. And the co-operative or social concern of thought is among the psychological prolegomena mentioned by Windelband.

An elaborate demarcation of the psychological sphere is made by Losskij. This, however, is intended mainly, not to enlarge the disciplinary programme, but to show that Logic is something more than Psychology. "What is distinctive in the Science of Logic," he says, "is that it investigates the grounds on which the relation between subject and object of a judgment is based, and is only concerned with the objective or synthetical side of cognition; while analysis, which is the subjective work of the individual knowing, and only serves as a bridge to the objective side of judgment, is of importance for Psychology, but not for Theory of Knowledge." He wishes to rescue Logic not, as Windelband does, from the superficiality of Nominalism and Symbolism, but from the limits of Conceptualism, which appears to be exemplified by Wedenskij, and to some extent by others to whom Losskij refers. Conceptualism he declares to be mere Psychology, though it follows a regulative method. An empirical psychology such as Windelband employs, he discusses only in contrast with Logic, and uses only for reference in defining Judgment. There seems indeed to be a hiatus in Losskij's assignments of sphere for Logic and Psychology. The immediate identity, eternity, and universality which even analytic thought attains, can be explained in neither. With Windelband and Enriques, pure Logic begins with the conversion of psychical pulsations of

attention into the timeless content of knowledge, without relying on regulative Psychology, and yet without waiting to consider that what is so given is a synthesis.

II. *Pure Logic.*

The Introspective moment of self-consciousness, therefore, must take on a further moment as consciousness of value in itself. Introspection, our Phenomenology has shown, reveals the attitude of acceptance and rejection, and the pure logical consciousness must reveal the value which constrains us in such acceptance and rejection. Our logical motive, therefore, asks for a discipline in this moment, and we get from Windelband, and professedly from every other logician, a pure or formal Logic. With Windelband pure Logic "deals with the forms of right thinking"; with Royce it is a "survey of the types of order found in the logical, as distinct from the physical, world"; Couturat presents to us relationships between different elements in our conceptions; Enriques, the mental products called "rational"; Losskij, the grounds on which the relation between the subject and object of a judgment is based. What it seems to amount to in the case of Windelband is the systematic expression of principles and categories which have a universal value; norms or factors of constraint in our judgments, which prevent our acceptance or rejection from observing any merely personal value. The concurrence of many factors of constraint in any specific judgment, the different applications of the logical forms and norms as they are brought together to serve some particular end, is reserved for Methodology.

In Windelband's search for norms he finds some that are a core in every act of judgment, namely, those expressed usually and by himself in the Laws of Thought. These do not merely govern our progress from thought to thought but enter into the constitution of every distinguishable pulse of thought that relates contents. Usually, in order to distinguish the logical

from the merely psychical, logicians use phrases that are objective in reference: "It is impossible that a thing can both be and not be"; but Windelband prefers to avoid realist implications: "The assertion and denial of the same relation cannot both be true." A scruple peculiar to Windelband himself is in regard to the Law of Excluded Middle. The norm here he would so express as to control a nascent moment in the internal development of a judgment rather than the completed act. It appears to mean no more than that truth is realized in assertion or denial. If Losskij's doctrine were accepted that all judgments, axioms and perceptions equally with inferences, are "logically established," we should most naturally say: There is always a synthetic necessity in things for assertion or denial. But Windelband not only distinguishes the necessity of axioms and perceptions, which is positive only, from the inferential necessity which recognizes an alternative, but where the alternative is recognized allows that an element of indecision may be rational. Losskij's insistence on the extreme objective in the content of thought leads to the paradox that "Thought can only lead to truth and has no place for errors." We need a norm for the impulse of Thought towards truth, before the full immanence of the real is attained.

After expressing in the Laws of Thought the possibility of single judgments, we proceed to search for the norms of progressive thought, determining sequence in its pulsations. The connection between thoughts must, no more than the single judgment does, wait for immanence. Yet it must not merely repeat the norms of self-consistency which make a single judgment possible. It must grow from the reflective and constitutive categories. The reflective categories are Distinction and Identification. They are exemplified in the mathematical ideas of number, summation, magnitude, and are expressed in the logical topics, conception and subsumption.

Here we have arrived at the common field, though it be only

a battlefield, of all the Logics. From time to time it is swept with the scorn of positive scientists, and its pretensions humbled and levelled even by logicians themselves, who view it from the standpoint of Empiricism in Epistemology or of Realism in Metaphysics. Windelband's individual exposition becomes of less interest than the general drift of philosophic criticism in our new century concerning these age-old logical conceptions and rules. One tribe of critics may perhaps be acknowledged for our twentieth century as victors. It is no longer possible to limit our search for norms, as Hamilton in the middle nineteenth century did, to a subjectively formal level. What in this volume is most like such a limitation is the outline of the problems of Logic contributed by Enriques.

But in discussing the basis of the Concept, the process of Abstraction, the limitations through denotation or connotation, the formation of new concepts by logical operations on old ones, the grades of derivation in Concepts, and similar topics, Enriques has in view, not questions of internal development, but the foreshadowing of, or approximation to, reality. He intends "a special enquiry into the value of Logic considered in its relations to reality, and its consequent applicability to knowledge." This was the question of Heraclitus and Parmenides, and of mediæval Realism and Nominalism. And his formal topics do not preclude an applied Logic which subsequently traces the approximation within a sphere of definite syntheses, including natural kinds, the constructive postulates of substance and cause, and the methodology of hypothesis and verification. Under one purpose we may say, with Enriques, that our concepts of substance and cause are within hail, as it were, of the kingdom of reality, and under another, with Windelband, that they are essential connective nuclei of thought, the moment it ceases to merely reflect on its already acquired stock of ideas and turns its face towards reality. Where these newer Kantians have parted from Hamilton and from Kant himself is that the categories which he, Kant,

discovered as the norms of the single synthetic judgment, and which Hamilton absorbed in the Concept, they discover also in the interconnection of judgments. And beneath the conceptual operations which Enriques describes, there lies the vital energy of these categories. There is the Inherence of different or changeful properties in Things, which through reflective categories taken alone would be mere persistent sameness, and there is Causal and Teleological synthesis, which to reflection would be merely a becoming and vanishing.

Windelband does not give rules for the use of the categories. I presume that it belongs to a detailed Logical system to supply for the constructive categories, as well as the reflective, what traditional Logic has always supplied for the latter. Kant himself and especially Lotze, have at least indicated as capable of being supplied such formal expressions of synthetic vitality in thought. Corresponding to the syllogistic axiom we must have a maxim such as Kant gives for Induction: Many things do not agree in one characteristic without a reason—an expression of norm for causal relating; and in an essay published elsewhere I have ventured on a sort of converse to this, for Analogy: Many characteristics do not unite in one thing without a reason, an expression of the teleological norm. Such formulæ belong to pure or formal Logic, and are distinct from the schemes of eliminative method given by Mill, and from the correlations between hypothesis and verification described by Jevons, Sigwart and others, which belong to Methodology.

Couturat claims that the new Logistic is “a normative science of the formal laws of correct thinking”; and that it is “merely the modern method of treating the old and enduring problems of classical Logic.” The old Logic, he says, was restricted to the relations between concepts, but the modern prefers to take the proposition as its ultimate element. A logical activity which starts thus, with the proposition or judgment as given element, cannot be a mere logic of sameness

and difference such as Hamilton's is; and, on the other hand, when it postulates that the judgment is the assertion of a fact, it shuts out or ignores all the doubts and qualifications which attend the development of norms for inductive belief. So far as number and dimension are constituents in our understanding of reality that otherwise is concrete, the norms of unity and multiplicity and of affirmation and negation, may be sufficient. And even when the understanding is dealing with the concrete constitution of empirical things, and incidentally classifies and relates them in space and time, these norms operate as subsidiary to the categories of relation. And for the purpose of what I have named Interpretative Inference, where the co-operation of several minds is secured through definite references to points of space or time, that is, to the extension of concepts and judgments, the symbolic formulæ both of the old and the new Logic have a distinctive and necessary sphere. Our traditional deductive logic can be, and has been, chiefly expressed in terms of classes and the quantity of judgments; and consequently the new logistic claims to absorb it. Couturat's doctrine of implication includes the principle of syllogism: If the proposition A implies proposition B and B implies C, then A implies C; and his doctrine of classes also includes it: If every a is b and every b is c , every a is c .

When, however, Couturat and others complain that "the classical Logic neglects many forms of deduction which depend, not upon the principle of the syllogism, but upon other principles," and that it limits itself to propositions with two terms, and to terms that are classes rather than objective relations, and to the logical relation of inclusion or exclusion between classes; there is an answer that may be rendered to him. The sufficiency of symbolic formulæ is only a matter of degree; and when, in order to enrich our system of relations in extension, we abandon the use of verbal standards for simple letters and arbitrary marks, there is some efficacy

that is lost as well as some that is gained by the new symbolism. The syllogistic limitations of traditional Logic have not been due altogether to the ignorance of the ancients as to the power of symbols to preserve the more subtle logical distinctions. The distinctions themselves were purposely ignored. Aristotle's doctrine of Categories was a possible basis for a logistic system. But he deliberately chose to develop his forms rather upon the basis of a doctrine of Predicables. He thus began the formal criticism of thought at a stage of its development where the propositional function, the variable, and the class abstractum had already done their work. For, he said in effect, Whatever has been predicated as the nature of an object of thought, a nature that lies formally in categories, may now be taken as a logical subject; and any predicable that we may find valid for it may, when we please, be converted into terms of assertion about the object primarily given.

III. *Methodology.*

The norms in the course of their elaboration and organization express themselves in maxims such as the syllogistic and inductive axioms. But these are mere devices by which to discipline our sense of how science proceeds, and not to add to the wealth which science wins, still less to either question or confirm its value. And it is in Methodology that Windelband and others most explicitly assume this attitude. "Every method," he says, "must be defined only by reference to the particular logical and actual character of the subject matter to which it is to be applied . . . the development of scientific insight must of course be left to the particular discipline itself. Logic has neither the right, the duty nor the power to excogitate fertile methods." Self-sufficiency in method is clear for Mathematics, but speaking also of the sciences which do not formulate, like Mathematics, their axioms, "the less these disciplines bring expressly into consciousness the axiomatic

structure of their proofs which they take as a matter of course, the more necessary it is for Logic to work it out as systematically as possible." I should prefer to speak of "the axioms that express the method of their proofs," rather than of "the axiomatic structure," so as to avoid confusion between the logical consciousness and the scientific. The necessity is only for the logician; and arises because the perception of method is more difficult. The chief distinction, however, among proofs, is between Apodeictic and Epagogic. And it is the former that in content are most treacherously similar to Logic itself and need a demarcation from it.

This is especially so if our study of logical forms is an empirical one; since the study of mathematical proofs is, to the logician, also empirical. It is perhaps one of the sacrifices that must follow an abandonment of Couturat's precise demonstrative method in Logic, in favour of Royce's pragmatic and empirical method, that this demarcation becomes more difficult.

As I have already noticed, Royce connects the system of symbolic forms of truth with our self-consciousness in a special manner. They are "ways in which our rational will, when we think, expresses itself. . . . In his study of the Science of Order, the logician experiences the fact that these forms are present in his logical world, and constitute it, just because they are, in fact, the forms of all rational activity" (p. 95). This penetrating suggestion might reassure the devotee of thought, and make him at home with the revived valley of skeletons which he had been shown by Couturat, were it not for the failure to clearly distinguish the sources of content in logic itself from those in Science. The forms of proof in Science should be the content sought for in Logic. Yet when he has found them, Royce speaks of them thus: "The foregoing concepts of Relation, of Relational Properties, and of Classes, have enabled modern mathematicians and other students of logic to define in exact terms a surprisingly vast range of order-systems. With almost dramatic suddenness

the considerations which may have seemed so varied, disunited and abstract in the foregoing sketch, suddenly give us, when once they are properly combined, an insight into precisely what is most momentous about the order present in the worlds of Number, of Quantity, of Geometry, and of Theoretical Natural Science generally." Mathematicians who have been with us in the study of logical principles have certainly had the advantage of being made conscious how in scientific truth our will to be rational, as well as the truth-content, can be revealed. But now the scientific consciousness and the consciousness of rational will must consider their relationship to each other. The former cannot obtain its content from the latter. Royce mentions Mr. Russell as holding that given certain "logical constants which are fundamental and inevitable facts of a realistically conceived world of purely logical entities, the order systems are then creatures of definition, and the properties of these systems follow from their definitions." If so, surely the logical consciousness should cease with the tale of logical constants, and leave the definitions to the scientific consciousness. Yet Royce persists that definition cannot be the dividing line, because it also reports the existence in the logician's realm, of certain *beings*, namely classes, relations, series, orders, of the degrees of complexity he had been describing. If absolute pragmatism is to absorb Logic, or even to take a place within Logic, it must distinguish the logical will from the scientific, the will to be rational, for which definitions are a mere ancillary to self-consciousness, from the will, whether Reflective or other, to posit mathematical entities, for which definitions are essential.

Logic, according to Windelband, is neither Rational nor Empirical, but Critical. It can therefore do nothing for Mathematics or for Empirical Science, though it may do something for the mathematician or the scientist. It brings home to his consciousness the kinship of his proofs with those

employed in other sciences, and their common root in the reflective norms. And passing from proofs to the methodology of Inference, it shows the kinship of rational and empirical investigations, through the "coercion of objectivity" which lies in the constructive categories and "victoriously opposes its sovereign power against every caprice of assertion." It contrasts the pure intensiveness of rational objectivity with the extensiveness of it in scientific generalization or the contraction of it in historical determination; and the abstractness which is demanded in Physics by the causal category, with the concreteness demanded in the Humanities by the teleological category. It characterizes the achievements of thought by such distinctions as nominal or real in definition, descriptive or theoretical in significance, provisional or final in certainty; and notices shades of consideration that may be peculiar to separate and specific disciplines.

IV. *Epistemology.*

It is because Windelband disclaims for Logic that it is a body of either Rational or Empirical knowledge that a mere man of the street, stirred by a primitive motive, may accept it as a plan of self-discipline, the phenomenology, the pure nomology, and the methodology of thought. Introspective identification of the signals that arouse our sense of method to take on self-consciousness, the expression of the vital impulses of thought as categories or as maxims for the will to think, the recognition of distinct spheres of the objective that invite the energies of different normative impulses of thought; these are each relevant to our motive. But when Windelband, Enriques, and Losskij adopt "critical" knowledge, in the technical sense of criticism, as the content of Logic, and Windelband warns off from this theory of "consciousness and being" those who would regard Logic as nothing more than the art of right thinking, we must ask whether the sense of method

is really concerned with the boundaries set to thought as distinct from norms and achievements. For by "criticism" I understand the discernment of limits. Can we appreciate a vitality the better by thinking of inevitable death? Perhaps a sense of what no method can be may be part of the sense of what methods are. Method is a relation. It must have terms. Like the Hindoo conjuror's rope, it trails on the firm earth of psychical activity. What is the attachment skywards? "How is the common or universal validity of knowledge related to the reality to which it is referred as its Object?" And again is the attachment distinct for mathematical and for empirical knowledge? "The autonomy of the special sciences, which rests on the difference of their objects, must make itself good by means of the Logic of the Object, not only in the uniqueness of its (methodological) procedure but also in the specific colouring of the sense it attributes to the truth which it claims for its results." The "nature" attributed to a circle "exists and determines knowledge, and yet it has neither substantial nor functional reality or actuality," as I suppose the chemical formula for water or a physical formula of mechanical power would have. Windelband considers that for every kind of knowledge there is accessible a "form and order" under which that which exists is determined. Validity is the attachment of thought to this form and order, and here the analysis of knowledge and the interest of Logic, "has reached its ultimate and irreducible limit." There is no higher principle which can resolve the distinction between order and actuality.

Consequently there must always be a discrepancy between connective form and the empirical content to which we assign it. "The construction of objects in human experience and science can never be more than provisional." I suppose that neither chalk nor pencil nor even imagination can present adequately a circle. Though the connections which are valid may be, as Losskij contends, the immanence in consciousness of a connection which is necessary in itself, or as Windelband

contends, the side turned towards thought of an inter-connection necessary in itself, nevertheless this necessity contains no self-selection of the proper existents.

And, moreover, properly selected existents can still only be a fragment of the real scope of a connection. I suppose that we may pursue the physical concept of water through H_2O and into a speculative distribution of electrons, without ever feeling that our intellectual grasp has closed finally upon the complete universal. Thus Enriques says, "In the advance of science an uninterrupted but progressive series of mental constructions gives us an approximate, but only approximate, idea of the inter-connected system of Reality."

The discussion of such problems appears to be, not positively as Phenomenology, Pure Logic and Methodology are, a discipline of our logical faculty, but rather a delimiting of its sphere. Such delimitation is perhaps a transition point to a discipline, if there is one, for our nature as a whole. The large place it occupies in the present volume as theory, anticipates the volumes to come. The circle of logical unity is preparing to hold a place in the larger circle of kindred theories.

If the modern devotee, however, were tempted to creep within the unity of a definite philosophic theory, there are incidental warnings to him in these essays themselves. Couturat offers him, though hesitatingly, a new science, when his anxiety is rather to put a value on what he already knows. "If the laws of logic ever play the part of premisses, it can only be in demonstrations of logical science, and the same laws figure in it (*i.e.* in Logic) sometimes as premisses and sometimes as rules of deduction." This facing both ways of the logical doctrine is more than we desire. Couturat's hesitation is intended to save the mathematician from committing himself to a similar superfluity of intelligence. The example of Logic, he says, explains, without justifying, the intrusion of logical laws as premisses where they can only be rules of deduction. Aristotle had issued a still clearer prohibition to sciences generally.

Losskij invites us to intuit or contemplate the logical laws as objects alongside stars, colours, remembered joys, and the rest. To use Losskij's terminology, Logic is not merely "mine," but is "given to me." "If the question be asked, how is knowledge itself known, how, for instance, do we know the forms of knowledge, the Categories described in the *Critique of Pure Reason*, . . . in that case at least the mind contemplates the object of his study, apprehends it immediately and describes it just as it is found in the process of Knowledge" (*Proc. Aristo. Soc.*, 1914). Such a question is a dangerous one to ask. It was asked of Kant himself by Fries and others who have been left behind in a backwater of the onward stream of speculation. But if Losskij's answer is the right one, our comment is that it is not further knowledge we want, even of categories. We have, as given to us, sufficient variety of objects already, and turn to Logic, because the way of mere contemplation of objects does not seem to ensure our intellectual salvation. Finally, Windelband disclaims any such assurance for logical knowledge as we have for stars and remembered joys and other objects. For Logic, there is only a general consent of normal intelligences and a consistency or coherence within the system of doctrine. "If any man stumbles at the fact that when we want to think about thought we must, in so doing, already follow the norms of right thinking—there is no arguing with him." Being thus debarred from valuing Logic as he would value any other branch of learning, what, for a mere devotee, remains? To be normal and self-consistent is not a sufficient assurance. His test can only be a practical one. Do these expositions, perchance, add to what is "mine" though not "given to me"? Do they awake a new mode or degree of consciousness of the old objects different from the primary knowledge of them, and serving to bring this knowledge into readier and fuller co-operation with the remaining faculties in our total spiritual life? And that is the primitive motive.

Logic must be an Art, but a spiritual art. It is the discipline of the faculty of knowledge for its teleological function in our complete nature. And I am not sure that the motive of Philosophy in general, as set forth by the editor of this volume, the effort for rational unity, is the genus to which it is to be subordinated, and that it must take its place as a circle constitutive of that larger circle. Were the aim of Philosophy defined by a more comprehensive teleology, and were Logic, developing from its own internal vitality, to find itself side by side and co-operative with kindred systems of spiritual discipline, it would not refuse to adapt its forms to a common aim. But it cannot delegate its special mission to Psychology, Epistemology, or Metaphysics, nor on the other hand, restrict its procedure by the standards of scientific symbolism ; though it may borrow from all these. If we are to name the teleological principle of our spiritual life as a whole, we must call it Conscience. If Conscience is to be a composite faculty, we must include in it Method or normative play of the Intellect, and if Method is to be disciplined by being made vocal, we must call the expression of it Logic. Whether Conscience as a whole can be disciplined by expression may be questionable, but, as I have tried to show in the booklet already referred to, there is reason to suppose that Method can be so disciplined.

VII.—DISCUSSION—THE VALUE OF LOGIC.

By A. WOLF and F. C. S. SCHILLER.

I.—By A. WOLF.

- § 1. Introduction.
- § 2. The Educational Value of Logic.
- § 3. The Alleged Anti-religious and Anti-social Influence of Logic.
- § 4. Logic and Science.
- § 5. The "Formalism" of Logic.
- § 6. Dr. Schiller's Neglect of his own Preaching.
- § 7. Samples of Dr. Schiller's Misunderstandings of Logic.
- § 8. Logic and Pragmatism.
- § 9. Concluding Remarks.

§ 1. *Introduction.*

To vindicate the value of a study that has been pursued for more than two thousand years may appear to be a gratuitous undertaking. So indeed it would have been, were it not for certain violent criticisms of recent date. Logicians have, of course, long been accustomed to the mild sneers of certain superior people who are so favourably impressed with their own innate wisdom that they consider it an amusing impertinence on the part of Logic to hold out to them any prospect of the improvement of their understanding. But this kind of conceit is only one of the many forms of human stupidity which life is too short to trouble about. It is quite different, however, when a professional logician denounces the doctrines of Logic as false or meaningless, accuses it of exercising a pernicious influence, and appeals to the political powers that be to suppress altogether the study of the existing Logic. This is what Dr. Schiller has done in his *Formal Logic, A Scientific and Social Problem*. The object of this paper is to refute Dr. Schiller's most serious charges.

It is clearly impossible in a paper of this kind to traverse the whole ground covered by Dr. Schiller's volume of four hundred odd pages. Nor is it necessary. A difference of opinion on various logical problems would have been no serious matter. The phenomenon is sufficiently familiar in all departments of inquiry. What is extraordinary and really serious about the book is its condemnation of Logic as a "scientific and social evil," an accusation to which the very title-page draws attention. My chief aim in this paper is, accordingly, to vindicate Logic against this charge. First, I propose to show that its educational, religious, and social influences generally make for good rather than for evil, and that its relation to science is perfectly correct. In the next place, I propose to consider the so-called *Formalism* of Logic, which Dr. Schiller claims to have discovered to be its original sin, the *fons et origo* of all its defects; and I hope to show that he has misunderstood not only the "formal" character of Logic generally, but also a number of very elementary doctrines. Lastly, I propose to examine very briefly the relation of Logic to Pragmatism, which seems to have prompted Dr. Schiller's whole attack.

To prevent unnecessary misunderstanding it may be remarked at once that although Dr. Schiller's book is entitled *Formal Logic*, yet its author really had in view what is commonly called *Logic* simply, that is to say, the whole of existing Logic. I shall accordingly speak of "Logic," and not of "Formal Logic," which is usually understood in a more restricted sense. Moreover, when I speak of Logic I must be understood to mean such logical doctrines as are commonly accepted by leading logicians, such as Mill, Jevons, and Venn. Not every view of every writer on Logic can be rightly regarded as part and parcel of Logic, be the writer never so distinguished. *Mutatis mutandis* the same kind of remark would, of course, hold good of any other branch of knowledge. Let me illustrate what I mean. I entertain the greatest admiration for Mr. F. H. Bradley's *Principles of Logic*, but I do

not think it would be right to treat all its doctrines as part and parcel of "Logic," any more than it would (in my humble opinion) be right to treat all the views of M. Poincaré's *Science and Hypothesis* as an integral part of "Physics," although few physicists, I suppose, would withhold their admiration for the book. Even less justifiable would it be to treat as an integral part of any department of inquiry any and every view that has ever been propounded in the course of its past history. If that were permissible, then writers even less gifted than Dr. Schiller would have little difficulty in perpetrating a comic history of any science that happened to take their fancy. Not that I would repudiate the history of Logic or of any other branch of knowledge. Far from it. There is always something to be learnt from the past, even from the errors of the past, much more so from its treatment of problems that are still unsolved. Even in the physical sciences, where history plays a far less important part than in other lines of inquiry, the most eminent exponents pay attention to history and show respect for the past. The late Professor Preston, for instance, introduces his *Theory of Light* with an interesting outline of the history of the subject. And Sir William Ramsay* affects no contempt even for "phlogiston," but treats it with the respect that is due to every serious attempt to deal with a problem, even if the attempt fails. In the same way Logic is fully justified in explaining briefly some of the past attempts to solve certain problems, even if those solutions are not considered satisfactory, and especially so if those problems have not yet been solved satisfactorily even now.

§ 2. *The Educational Value of Logic.*

Dr. Schiller's view of the educational worthlessness of Logic is based chiefly on the alleged falsity of its doctrines; but that, as I hope to show in due course, is just what he

* *Essays, Biographical and Chemical.*

fails to prove. For the rest he contents himself with mere denunciations voicing his personal impressions. Now, as against Dr. Schiller's unfavourable impression of the educational value of Logic, it will be of interest to refer to the personal impressions of one or two other people whose opinions on matters educational will generally be admitted to carry some weight, and whom nobody, not even Dr. Schiller, can suspect of any mercenary interest in the study of Logic. First, let me quote the view of His Majesty's Chief Inspector of Teachers' Training Colleges. "It is not too much to say that the first duty incumbent on the teacher . . . is to learn and to practise the elementary rules of logic. Psychology may wait until the teacher knows how to discriminate a good argument from a bad one."* Next, let me mention the views of Lord Kelvin. His biographer informs us that "Logic he held to be a study of almost vital importance to the scientific man; *zuerst collegium logicum*, he would quote from *Faust*, not in jest but in earnest." Again, "he valued highly the aid which the study of logic gives to close thinking. 'More ships,' he said, 'have been lost by bad logic than by bad seamanship.'"+

Some people, indeed, attach so much importance to the improvement in the power of discrimination brought about by the study of Logic that they would uphold the educational value of Logic as a mental training even if its doctrines were not true. As I maintain that logical doctrines are true in the main, I do not feel called upon to discuss this gratuitous question. But the study of Logic does, I think, help to improve discrimination. Even Dr. Schiller seems to admit that, for he accuses Logic of encouraging quibbling and logic-chopping, and even these accomplishments require some discrimination. The fact that the power of discriminating

* P. A. Barnett, *Common Sense in Education*, p. 54.

+ S. P. Thompson, *The Life of Lord Kelvin*, Vol. II, p. 1116.

may sometimes be abused is no argument against the value of discrimination, and of whatever helps to improve it. Would Dr. Schiller say that all education is an evil because educated rogues are more effectively roguish than illiterate ones? I imagine rather that he would say that education as such is good, only it can unfortunately be put to bad uses by those whose inclinations are evil to begin with. Similarly, I would maintain that discrimination as such is good, and whatever study helps to improve it has educational value, though unfortunately people who are inclined to quibble may quibble the more effectively as their power of discrimination grows more subtle. But, on the one hand, it must not be overlooked that quibbling and logic-chopping are accomplishments that are met with among many people who have never studied Logic; and, on the other hand, it is well to remember that some people are much too prone to condemn as quibbling or logic-chopping whatever distinctions they find inconvenient, be these never so real and relevant.

It is true, of course, that in the hands of a competent teacher almost any subject may be made to serve as an efficient whetstone of his pupils' wits. Logic does not profess to be the only kind of mental discipline, nor does it even profess to be the best form of mental training for everybody. But the study of Logic has this advantage as an intellectual training, namely, that it not only affords exercise in close thinking, but also makes explicit the principal ways of estimating evidence. And, after all, what is the principal aim of all intellectual education, if it is not to develop a well-balanced mind capable of thinking for itself, because able to appreciate the pros and cons of the problematic situations confronting it?

Unfortunately any subject can also be taught badly; and Logic is no exception. There is, moreover, a special reason why the teaching of Logic sometimes fails to be of such educational value as it might be. It is this: Logic is almost

invariably taught by teachers who are chiefly interested in other, more fascinating, more fundamental philosophical problems. The result of this is that Logic is treated for the most part as a mere propædæutic to philosophy, and its more speculative parts are stressed at the expense of the less philosophical, but educationally more valuable, if more humdrum, parts. This tendency is also encouraged to some extent by the fact that the study of Logic is not usually taken up sufficiently early in the student's career. As a rule the study of Logic only begins at the University, when the student who takes up Logic at all is chiefly interested in its epistemological problems, and is all too prone to skip altogether the detailed problems of proof, especially if the teacher himself shows signs of impatience and weariness. The first business of a teacher of Logic is to enable his students to understand the main types of proof, to recognize them in concrete cases, and to form a reasonable estimate of such concrete cases in so far as the evidence is presented in an intelligible manner. This requires a considerable amount of a kind of drilling to which one does not always take kindly after he has once escaped from the bonds of school discipline. But, pursued in the right way, and at the right time, the study of Logic is sure to bear fruit in proportion to the intelligence and industry of the pupil, and will be of help to him whatever work he may take up afterwards. If the teaching of Logic fails to produce the best results, it is the tendency to make it prematurely philosophical, and to treat the Logic class as a nursery for budding philosophers, that is chiefly responsible for this failure. But that the results on the whole are satisfactory I have no reason to doubt after considerable experience in teaching students of all sorts and conditions.

Let me not be misunderstood. I do not for a moment mean to suggest that the study of Logic can take the place of special training in any kind of pursuit. Nothing else can replace practice in, and first-hand familiarity with, whatever work

one may want to take up. Practical training is absolutely indispensable for one's special vocation, whatever it be. Other things may supplement it, but nothing else can supplant it. Nevertheless, even in one's special "shop," whatever it be, an insight into the general methods and requirements of proof may be of some value in making the work a little more intelligible and more interesting. Above all, however, it must be remembered that live people take an interest in things other than their special shop, things of which they have little or no first-hand, expert knowledge. This, indeed, is a *sine qua non* of real democracy. Hence anything that helps to save one from his own whims and fancies, from the prejudices of his environment, or from the tyranny of the professional expert and the official, is of value both to the individual and to the community. The information necessary for forming a reasonable opinion on various social and political problems is often available in expert compilations and even in newspaper summaries. What is chiefly required is ability to estimate evidence. And that is just what the study of Logic helps to cultivate.

Before passing on to the next topic let me repeat explicitly that the study of Logic may be helpful to all students, whether they are also students of science or not. Dr. Schiller makes merry over the Oxford practice of allowing only students of the humanities, and not students of science, to offer Logic for their degree. In so far as science students are thus discouraged from studying Logic the practice certainly seems strange and regrettable, though I do not presume to judge, as I know nothing of Oxford conditions. In London science students may, and sometimes do, read Logic for their degree. Dr. Schiller, however, seems to imply that Logic is not a suitable subject for students of literature. I contend, on the contrary, that the student of literature has as much need of Logic, and as much opportunity of employing scientific methods, as the student of science. I would even maintain that there are literary studies

which afford almost as fine illustrations of the application of scientific method as any that are to be met with in scientific treatises. In fact I generally advise my students to study carefully the logical aspects of some such book as A. C. Bradley's *Shakespearean Tragedy*.

§ 3. *The Alleged Anti-religious and Anti-social Influence of Logic.*

The principal grievances which Dr. Schiller has to urge against Logic are these: (1) First, the rationalistic tendency of Logic is said to have alienated a large proportion of the best human thought from religion. (2) Secondly, the stress which Logic has laid on the incompatibility of different beliefs concerning the same objects has supplied, according to Dr. Schiller, a motive and a justification for every form and measure of mutual intolerance and persecution.

To most people it will probably appear somewhat strange that one and the same study should produce such apparently opposite results as enlightened scepticism and fierce fanaticism. Again, when logicians and others hold that Logic has an educational value just because it helps to develop rationality, then Dr. Schiller ridicules the claim; but when the rationalistic tendency of Logic can be used as a bogey with which to alarm pious souls, then it is quite another matter. The contention that Logic is responsible for so-called religious and other kinds of persecution is certainly novel; that it is anything more than novel is not shown. Oddly enough the founders of Logic, Socrates and Aristotle, were themselves, not the *perpetrators*, but the *victims* of persecution; and their persecutors had no Logic to incite them. But even this does not make Dr. Schiller hesitate. Undaunted by the absence of any sort of evidence for his view, he nevertheless makes the very serious charge that the fruits of Logic are "dogmatism, intolerance, pedantry, and contentiousness, timidity of thought and a cowardly avoidance of risks."* That contentiousness and timidity should

* *Formal Logic*, p. 406.

grow on the same tree is remarkable enough. But let this pass. What, however, has Dr. Schiller to say in support of his grave accusation? He contents himself with some vague generalities about the supposed nature of Logic. But general considerations of the nature of Logic are, I venture to think, altogether against his allegation. For Logic is the study of proof. A training in Logic means a training in the estimation of evidence. Now the logically trained person, realizing how much there is of unproved assumption in his faith or *Weltanschauung*, will, notwithstanding his own attachment to it, be prepared to admit the merits of other views, other faiths, other *Weltanschauungen*. Such an insight into one's own and other people's points of view in matters social and religious should promote, one would imagine, mutual tolerance and good will, rather than mutual intolerance and contentiousness.

My contention, be it carefully noted, is not that the study of Logic is sufficient of itself to produce a tolerant disposition, but only that in so far as a knowledge of Logic influences one's disposition at all, it inclines it towards tolerance. Dr. Schiller's psychology is really much too simple, else he would never have assigned such a wealth of consequences (good or evil) to the mere study of Logic. A tolerant or intolerant disposition is as little the result of Logic as of the study, say, of Pragmatism. People may be tolerant without such studies, and they may be intolerant with them or in spite of them. The gifts of the spirit enumerated in Dr. Schiller's catalogue of the alleged fruits of Logic are, no doubt, to be met with sometimes among those who have studied Logic. But they are also to be met with just as frequently, if not more so, among those who have taken up Pragmatism, or some other "ism," or no "ism" whatever. Mr. Bertrand Russell has actually suggested* that the intolerant Aristotelians who opposed Galileo were really

* *Philosophical Essays*, p. 94.

pragmatists, and that their opposition to Galileo was only a faithful realization of pragmatist precepts. And anyhow Dr. Schiller himself, in a cool hour, should have no difficulty in finding in his own *Formal Logic* an exhibition of some of those amiable qualities which he ascribes to the pernicious influence of Logic. In truth, however, as every student of Logic knows, the bare fact that some of the votaries of Logic or of Pragmatism sometimes show such charming manners is no sufficient reason for regarding these manners as the effects of Logic or of Pragmatism.

Sensible people, whatever their label may be, soon realize that, so long as there is sufficient practical agreement to carry on the business of the State, there is no reason why people should not amicably agree to differ on all sorts of questions when, as so often happens, the evidence is inconclusive. And the logically trained person is not likely to be the slowest to recognize cases of inconclusive evidence, nor is he the most likely to question the legitimacy of rival hypotheses in such cases. The charge that Logic is a social evil, because of its alleged incitement to intolerance in matters religious and social, is simply baseless.

§ 4. *Logic and Science.*

Dr. Schiller accuses Logic of two crimes against Science. The logician is charged with despising scientific drudges and tyrannizing over them. And the account which Logic gives of scientific methods is alleged to be false. Both these charges may be dismissed very briefly.

"For over two thousand years it [*i.e.*, Logic] has lorded it unopposed over the submissive human mind, and played the 'Old Man of the Sea' to the 'Sinbad' of Science, and has never encountered any serious questioning of its principles." Thus dramatically does Dr. Schiller voice the first of the alleged grievances of Science against Logic.* But what ground is

* *Formal Logic*, p. 386.

there for this complaint? None that I know of. It is a notorious fact that logical doctrine has almost always been influenced by the science of the time. Certainly modern logicians pay the greatest deference to science. Professor Windelband, for instance, says emphatically that what is accepted by the sciences must not be questioned by Logic, but must be acknowledged unconditionally.* This view, I maintain, represents accurately the general attitude of logicians towards the sciences. Science has therefore no reason to complain against Logic on the score of disrespect, and there is no occasion for Dr. Schiller's righteous indignation on behalf of science. Yet Dr. Schiller actually goes so far as to assert that Logic "leaves no room either for a plurality of sciences or for a plurality of theories [*i.e.* hypotheses] within each science."† This may be true to some extent of Dr. Schiller's projected "Psychologic," which is going apparently to be everything to everybody. But it is certainly not true of Logic.

I can only think of one instance in which a logician intervened in a scientists' quarrel, and tried to teach them what is the true method of science. That logician happens to be Dr. Schiller himself! Let me, however, add immediately that what he said was quite sound and respectful, and would never have been suspected of being anything but orthodox logical doctrine, were it not for an absolutely irrelevant tirade against "false" Logic with which the remarks on the real question are introduced. I am referring, of course, to Dr. Schiller's contribution on "The Logic of Science" to the current number of *Science Progress* (No. 31—January, 1914).

As regards the second of the alleged grievances of Science against Logic, I would ask, is it at all likely that a study to which eminent scientists like Herschell, De Morgan, Jevons, and Wundt have contributed should be seriously at variance

* See Windelband's "Principles of Logic," in the new *Encyclopædia of Philosophical Sciences*, Vol. I, p. 54.

† *Formal Logic*, p. 400.

with the sciences? Or, again, is it likely that Lord Kelvin would have commended the study of Logic so warmly as he did if he had thought the logical account of scientific methods so faulty as Dr. Schiller says it is? Is it at all plausible to suppose that such a fault would have escaped the notice of so keen-sighted a discoverer? All these questions must surely be answered in the negative. The fact is that Dr. Schiller's zeal for Pragmatism has distorted his conception of scientific method. This has been shown pretty clearly by Mr. Bertrand Russell,* whose competence to appreciate the real nature of scientific procedure nobody will seriously dispute, and whom nobody will suspect of partiality for traditional Logic. If the usual logical account of scientific methods is not in harmony with the pragmatist's conception of the methods of Science, the source of this discrepancy may be traceable to the errors of Pragmatism rather than to the incompetence of Logic.

It would not be very difficult to show that, on the whole, the attitude of Logic to Science has been anything but tyrannical. So far from presuming to despise Science or to dictate to it, Logic has really tried to learn from it, and some of the very faults of Logic have simply been taken over from the earlier teachings or ideals of Science. When Science looked for its ideal of method to the exact demonstrations of mathematics, Logic tended to exaggerate the importance of strict syllogistic proof from indubitable premisses. When Science treated the methods of mechanics as the ideal methods, Logic tended to put too much stress on certain of the so-called inductive methods. But now that Science is showing a greater liberality of outlook in sanctioning and utilizing less exact methods wherever the subject-matter does not, at present at least, permit of more exact methods, Logic, too, shows a wider outlook. The present-day logician does not confine himself to syllogistic demonstration from absolutely certain premisses, or to syllogisms in general,

* *Philosophical Essays*, pp. 147 f.

or even to the relatively more exact inductive methods, but includes in his survey a general account of probability, of comparative and statistical methods, and even of circumstantial evidence. Moreover, he does not profess to have discovered or invented these methods; he simply learns them from the actual practice of Science and common sense. What is there that is amiss in the attitude of Logic towards Science?

§ 5. *The "Formalism" of Logic.*

So far I have attempted to dispose of Dr. Schiller's view that Logic is a scientific and social evil. In opposition to Dr. Schiller I have tried to give some reasons for believing that the effects of the study of Logic, so far from being an evil, are a positive good to the individual and to society. The considerations adduced in the foregoing pages are, of course, important, especially in view of the limited purpose of this paper. But, if one cares to conceive of Logic as divorced from its valuable social consequences, I would maintain that Logic has a value, and its existence is justifiable, even apart from the more or less practical considerations discussed so far. My contention is that Logic has sufficient value merely as a department of knowledge, as a body of theories arrived at in the pursuit of Truth. Truth, Goodness, Beauty have intrinsic value, are "worth while" for their own sakes, and the pursuit of any or of all these ideals is a worthy pursuit, quite independently of utilitarian considerations. And Logic has sufficient value as an embodiment of the results of one line of search after Truth or Knowledge. As a pragmatist, Dr. Schiller may deny the general principle, and in any case he denies my special application of it to Logic. As regards the first point, namely, the intrinsic value of Truth independently of its practical consequences, it is obvious, of course, that I am not using the term "Truth" in its pragmatist sense, but in the ordinary sense; and if Dr. Schiller were simply going to assume the validity of Pragmatism, his whole procedure would be one of

openly avowed question-begging. I need therefore only consider the second point, namely, Dr. Schiller's denial that logical doctrines are in the main true or correct (in the usual sense of the words "true" and "correct"). Limits of space and of time make it impossible for me to discuss all Dr. Schiller's criticisms in detail. But for the purpose of this paper it will be enough if I deal with Dr. Schiller's principal charge against the soundness of Logic, and just add a few brief illustrations of the inaccuracy of many of his detailed criticisms.

Dr. Schiller frankly admits that of detailed criticisms he has little to offer that is wholly new. The chief credit which he claims for his book is that it brings together all the detailed criticisms, systematizes them, so to say, and derives them all from a single principle. That single principle is what Dr. Schiller calls the "Formalism" of Logic. The discovery of this principle, Dr. Schiller assures his readers, came to him as a great relief. And he is naturally proud of his discovery. For, instead of the separate and consequently ineffectual voicings of discontent, the discovery of a uniting principle makes it possible at last to produce a mighty blast that shall lay low the proud walls of Jericho. So, at least, Dr. Schiller seems to think. Accordingly, the most important objection to consider is the "Formalism" of Logic, which is alleged to be the radical fault of Logic, and the source of all its troubles. But what exactly is this "Formalism"?

Dr. Schiller's account of what he means by "Formalism" runs as follows: "What makes logic Formal is (1) the belief that it is possible to consider 'formal validity' as a thing apart and independent, and to abstract from 'material' truth, (2) the belief that it is possible to treat 'logic' without regard to psychology and to abstract from the actual context in which assertions grow up, viz., the time, place, circumstances, and purpose of the assertion and the personality of the assertor."*

* *Formal Logic*, p. 374.

Now if this account of Formalism is taken literally, then apparently the only way in which Logic could avoid being Formal would be by incorporating or embracing all the sciences (including psychology), and even all history and biography! But that cannot be Dr. Schiller's intention. For he tells us that "a pretension which would make Logic co-extensive with Science [let alone the rest] could only be seriously maintained in the Middle Ages, and in the University of Oxford."* I might have thought that the words "in the University of Oxford" were meant to refer to his own view of the all-inclusive scope of a "true" Logic (or Psychologic), only, although I am only a "formal" logician and therefore, according to Dr. Schiller, unable to detect a sarcasm, I have not failed to note that Dr. Schiller's references to Oxford are generally sarcastic. Moreover, Dr. Schiller jeers at the view of certain idealists that only a complete knowledge of the whole universe could be completely true. His account of Formalism must therefore be taken *cum grano salis*, if he really objects to Logic being Formal. Indeed, elsewhere he frankly admits that "in our actual thinking we always assume that much in the circumstances is irrelevant for our purpose, and we are usually right."† If so, then the logician also is justified in omitting from Logic whatever is irrelevant to the special problems of Logic. The only question that remains is, Who is to decide what is relevant, and what is not relevant to the aim of Logic? Dr. Schiller can hardly wish to suggest that he alone is competent to judge. On the whole, I think, those who have built up the traditional Logic have exercised a sound judgment in the selection of topics and in their mode of treatment; though, of course, in this case, as in the case of every other study, there is always room for improvement. Logic, as Dr. Schiller himself points out, does not always or

* *Ibid.*, p. 3.

† *Mind*, N.S., Vol. XXII, p. 249.

altogether abstract from "material" truth, but only in so far as, in the views of most logicians, this can be done legitimately. But Dr. Schiller is hard to please. In so far as Logic abstracts, he condemns it as *Formal*. In so far as it is not altogether abstract, he condemns it as not being *consistently Formal* !

The fact is that Dr. Schiller's whole mode of attack is not fair. He begins by condemning the whole of existing Logic on account of its Formalism, from which he deduces all sorts of evil consequences. His conception of Formalism is vague enough in all conscience, but in any case he soon has to admit that the cap does not really fit Logic. Instead, however, of determining in what way exactly Logic actually is Formal, he simply makes the further charge that Logic is not even *consistently* "Formal" (in Dr. Schiller's sense of the term), and so adds "inconsistency" to the other faults which he has "derived" from the principle of Formalism which he has "discovered." Now just suppose that somebody accused Humanism of crude utilitarianism, and, when shown that Humanism is not really so utilitarian, he were to turn round and say, You see, then, that Humanism is not even *consistently* utilitarian. I wonder what Dr. Schiller would say to that,—indeed, what would he not say ! Yet that is very like his treatment of Logic. The right course surely is, not to accuse it of being "Formal" in some sense which does not "consistently" fit, but to find out first in what sense, if any, Logic might be correctly described as Formal. Perhaps it may be as well for me to make good Dr. Schiller's omission, by giving a very succinct account of the real character of Logic.

The central theme of Logic is Proof, its principal types and general conditions. By "Proof" I do not mean absolute demonstration only, but any method by which one assertion may be supported by other assertions, which may give it more or less probability or certainty according to the nature

of the evidence (real or assumed). Some writers would make Logic co-extensive with a complete Theory of Knowledge. But that is not the view of most logicians, whereas all are agreed that Logic certainly is the study of Proof, whether or no other problems also pertain to it. English logicians more especially prefer, on the whole, to exclude as far as possible, epistemological problems from Logic. I am thinking of writers like Mill, Jevons, Venn.* This view appears to me to be quite sound. I admit, of course, that logical problems lead up to epistemological problems. Under favourable circumstances it may be wise not to draw a hard and fast line between Logic and Epistemology. But, on the whole, and especially to begin with, it is best to move on the same level of philosophical analysis as do common sense and science, and to probe no deeper, except to the extent of making fully explicit what is only implicitly assumed in every-day and scientific proof. Epistemology is certainly a very important department of inquiry, but it is inevitably much more speculative than Logic need be, and the two are best kept asunder at first. Most logicians (even Mill), it is true, find it rather difficult to exclude altogether, or to keep within proper bounds, the more philosophical problems raised by Logic; but it is not fair for a hostile critic to treat these speculative portions as an integral part of Logic, which is primarily concerned with the general conditions of proof.

By the general conditions of proof are meant those features which are more or less common to proofs relating to different kinds of subject matter. They can only be studied by abstracting from the special subject matter concerned in any particular proof. But it is only the special subject matter that is abstracted from; not subject matter in general. That would be quite impossible. Every proof must, of course, relate to some definite topic; but Logic is only interested in

* See also Henry Sidgwick's *Philosophy, its Scope and Relations*.

the comparative study of those aspects of a proof which it may have in common with other proofs relating to different topics. The common aspects so distinguished by comparison and abstraction enable the logician to formulate certain "forms," or general types of proof. For this reason, accordingly, Logic may be described as "formal," which means little more than "general" or "abstract." Now, this kind of abstract procedure is perfectly familiar and legitimate. It is a method commonly employed in every-day life, in the sciences generally, and in mathematics more particularly. And what is good enough for the sciences is good enough for Logic. Now Dr. Schiller maintains that "*it is NOT possible to abstract from the actual use of the logical material and to consider 'forms of thought' in themselves, without incurring thereby a total loss, not only of truth but also of meaning.*"* But if by "forms of thought in themselves" Dr. Schiller means anything different from the "forms" as I have just described them, then he is simply denying what Logic does not affirm; and if he does mean the same, then he is simply denying the possibility of a kind of activity which everybody (even Dr. Schiller himself) is constantly exercising.

Again, there are degrees of generality and of abstraction. And it need not cause any surprise if it is found that some types of proof (induction, for example) do not lend themselves to the same kind of abstract treatment as do others (the syllogism, for instance). Logic simply explains each type of proof in as abstract or general a manner as is compatible with accuracy. This appears to lead Dr. Schiller to charge Logic with not being consistently Formal. But there is nothing inconsistent in all this. Logic may not be consistently "Formal" in Dr. Schiller's use of the term. But then Logic does not profess to adapt itself to Dr. Schiller's use of terms.

Logic, moreover, abstracts not only from differences of content (to the extent just indicated), it also abstracts largely

* *Formal Logic*, p. ix.

from psychical context. In this respect also Logic is only doing what common sense and science are constantly doing. The slight extent to which science may be said to take account of "psychical context," it only does so in order to eliminate it, that is to say, in order to eliminate the "personal equation," and to obtain results as objective as possible. In Logic also what is sought is as objective an account as possible of the various types of proof. It is assumed, and assumed rightly, that the objective value of any kind of proof is no more dependent on psychical context than it is on the kind of type in which it is printed. The cogency of an argument is not strengthened by merely printing it in italics or capitals, nor is it strengthened by the strongest fit of temper. The intrinsic value of an argument is the same whether it is employed by a lovable personality or by an odious personality, whether it is used in a mood of wrath and vexation or "in that sweet mood when pleasant thoughts bring sad thoughts to the mind." Psychical context is as a rule of little importance. Even in every-day life and in ordinary conversation the person who cannot keep to the real point, but wanders away from it into personal reminiscences and similar digressions, though he may be very amusing sometimes, even unintentionally, is commonly treated with a certain amount of impatience and suspicion. In fact a too liberal betrayal of "psychical context" is the novelist's most usual and familiar device for conveying the suggestion of senility or imbecility. In scientific investigations, and in sensible discussions, people are expected to treat matters objectively, and to keep their "psychical context" to themselves.

Dr. Schiller does not deny that the procedure of Logic, in abstracting so largely from differences of material content and from mental context, is analogous to the procedure of the sciences. But he seems inclined to question the soundness of such procedure in any case.* The implied rebuke to science

* *Formal Logic*, p. 375.

appears rather odd when we recall Dr. Schiller's reproach to Logic for playing (on the stage of Dr. Schiller's fancy) "the 'Old Man of the Sea' to the 'Sinbad' of Science." On this point, however, I need only repeat that Logic does not profess to be more profound or more exact than the sciences are: what is good enough for Science is good enough for Logic.

Granting my main contention, namely, that the "formal" procedure of Logic is quite legitimate, it might, of course, still be urged that more satisfactory results could be obtained if Logic tried to avoid Formalism more than it does. *Prima facie* the suggestion certainly appears plausible. And if Dr. Schiller had only shown, by actual example, how the suggested improvement might be effected we should all feel grateful to him. But, so far as I can make out, Dr. Schiller has simply used the theoretical conceivability of a fuller treatment of logical problems as an excuse for indulging in wholesale invective against Logic and logicians. When it comes to a practical demonstration of the feasibility of a more concrete treatment of Logic he has nothing to offer. He contents himself with somewhat mysterious allusions to esoteric doctrines reserved for paying pupils.* Or else he rides off on a hump-backed metaphor about the need of "clearing the ground" before starting a new construction. The only "clear ground" required for a new Logic, or "Psychologic," is a supply of writing paper. Even if Dr. Schiller had a positive "Psychologic" to offer, he might have expounded it without being abusive over it. But to abuse the existing Logic, in the vague anticipation of producing a better "Psychologic" at some future time, is a mode of procedure which is not likely to commend itself even to common sense.

In the meantime, however, it is of some interest to compare Dr. Schiller's own practice, in the *Formal Logic*, with his preaching, in the same volume. It will not be very difficult

* See *Mind*, N.S., No. 86, p. 248.

to show, I think, that his practice is certainly no better, and probably rather worse, than the practice of other logicians whom Dr. Schiller treats with such caustic severity because of their divergence from his preaching.

§ 6. *Dr. Schiller's Neglect of his own Preaching.*

Dr. Schiller is quite eloquent when he insists on the dependence of meaning on context. "To abstract from the particular context in which the judgment arises, to universalize it without regard to its application, is not only to abstract from its ('material') truth or falsehood, but also to abstract from its meaning altogether. *If Formal Logic makes this abstraction, it is in the strictest and completest sense meaningless.*"* What Dr. Schiller means by "context" is stated more fully in the passage already cited above (p. 14). It means "the time, place, circumstances, and purpose of the assertion and the personality of the assessor." This is rather a "tall order." But, according to Dr. Schiller, there is yet another grave difficulty which an exposition of Logic must surmount if it is to escape Formalism. "As *all* words may be used in different senses and for different purposes, all are (infinitely) 'ambiguous.' . . . Nor can any definition ever be rendered unambiguous . . . because all the words it uses are ambiguous, and whatever attempts are made to define them, the terms of every further definition will themselves be found ambiguous *ad infinitum*."† Such is Dr. Schiller's theory. •

In passing, I cannot help remarking that if I seriously believed in all these requirements and difficulties, I should give up altogether speaking and writing, or if, prompted by some irresistible impulse, I did unbosom myself to somebody and found that I was actually understood, or even partly understood, then, considering the odds against the possibility of

* *Formal Logic*, p. 382.

† *Mind*, N.S., Vol. XXII, p. 247.

mutual understanding, I would consider it nothing short of a miracle. Not so Dr. Schiller. He believes in all these insurmountable obstacles to mutual understanding, and even strives hard to persuade others to believe in them. Yet he writes much, expects to be understood, and gets furious if he is not. If some unfortunate critic fails to understand him, Dr. Schiller does not say, "Well, after all, how was it to be expected that anybody should understand me"; less still does it occur to him to say, "Well, perhaps what he means is right, only *I* don't understand him." No, he just exercises his literary capacities in a manner that has made more than one reviewer realize how dangerous it is not to understand Dr. Schiller, or, at least, not to appreciate him even if one does not understand him.*

However, let us see how Dr. Schiller's practice compares with his preaching. Considering his insistence that the meaning, and therefore the understanding, of an assertion depends on "the time, place, circumstances, and purpose of the assertion, and the personality of the assertor," it might have been expected that his *Formal Logic* would pay adequate attention to these requirements which it urges with such emphasis. Yet, what do we find? The book is written in a manner so general and abstract as to be worthy (in that respect at least) of the most Formal of Formal Logicians for whose extermination the book pleads. The vast majority of its criticisms are directed against "Formal Logic" in the abstract. As a rule, when any view is "thrashed" out, nothing at all is said about "the time, place, circumstances, and purpose of the assertion, and the personality of the assertor," and even references are not given. Now, I do not say that this practice is altogether wrong (though I do think that references should have been given). But Dr. Schiller has no right to condemn others in these respects, so long as he himself cannot practise what he preaches.

* See, e.g., *The Journal of Philosophy, Psychology, and Scientific Methods*, ix, 25, pp. 687 ff., and *The Hibbert Journal*, No. 45, pp. 192 f.

Again, does Dr. Schiller pay sufficient attention to the context of other people's assertions? No. For example, after examining at length Mill's *Methods of Induction*, and criticizing them severely, Dr. Schiller suddenly remarks: "In spite of all these unanswerable criticisms the *Methods* are not so far wrong in what they meant. Only it is clear that they do not mean what they say. To give them good scientific meaning, and to remedy their misconstruction of scientific procedure, it is necessary to insert one little word, a magic word, however, which disrupts the whole of *Formal Logic*. Instead of talking about facts at large, let us say *relevant facts*."* Now even a cursory reading of Mill's illustrations of the inductive methods makes it perfectly plain that "*relevant facts*" are just what Mill did mean. Dr. Schiller, if he had only paid attention to the context, should have seen this, and spared himself so cheap and specious a triumph. Moreover, his faith in the power of "one little magic word" is altogether pathetic in one who flings about accusations of "verbalism" so freely and so contemptuously as Dr. Schiller does. Dr. Schiller's book is rich in misunderstandings of logical doctrine due to his failure to take account of the context of ordinary books on *Logic*. I am giving a few more instances of such misinterpretation in the next section, as examples of Dr. Schiller's method of criticism. It will be time enough for Dr. Schiller to ask for more "psychical context" when he has shown that he can appreciate such context as is usually given even in existing books on *Logic*.

Lastly, one might have expected from Dr. Schiller an abundance of concrete examples and illustrations of whatever theory he discusses. But nothing of the sort. It would be difficult to find another volume on *Logic* so sparing in concrete illustrations. And such illustrations as are offered do not seem to illustrate at all what they were intended to illustrate.

* *Formal Logic*, p. 268.

Take Dr. Schiller's illustration of the importance of context. "What, *e.g.*, 'It is hot,' means depends on who says it, why, where, to whom, about what."* Let us suppose that the remark was made in the Bodleian Library on February 20th, 1914, at 2 P.M., and that the temperature was 70° F. Surely it is quite easy to express all this in a proposition the meaning of which would be quite clear without the need of further information as to "who said it, why, where, to whom." If Dr. Schiller wants to set conundrums concerning inadequate expressions, he might have found a better illustration in the inarticulate lip-movements of the dumb. But in Logic, as in Science, we can only deal with adequately expressed assertions. And when these assertions are adequately expressed there is usually no need to know "who said it, why, where, to whom." Similarly with the illustrations intended to show the importance of knowing the interest or purpose of judgments before estimating their truth. "For example, whether a 'metre' is 3 feet, 39 inches, or 39·37 inches, and the value of π is 22/7 or 3·1416 depends on the degree of accuracy which any particular calculation demands. A greater accuracy than is needed is a waste of energy and therefore irrational; a less, is failure to attain a purpose, and is therefore wrong. Without a knowledge, therefore, of the actual circumstances of the application or use of a 'law' it is impossible even to ask whether or not it is 'true' A 'law' may be 'true enough' for one purpose, without being adequate for another."† Now, it does not require much knowledge of mathematics to realize that this adventure into the realm of the mathematician is not a happy one. The mathematician can say, and say truly, that the value of π , for instance, is 3·1 to one decimal place, 3·14 to two decimal places, and so forth. Whether or no a certain assigned value of π is suitable for a certain purpose makes no difference whatever—3·14, *e.g.*, is the correct value

* *Ibid.*, p. 382.

† *Ibid.*, p. 320.

of π to two decimal places in any case, and so with the rest. The introduction of "purpose" is simply a red herring. And such plausibility as the illustrations may appear to have, is due entirely to the fact that Dr. Schiller is using the term "true" in a pragmatist sense. If by "true" is meant that which is useful or relevant to one's purpose, then of course, by mere definition, one must know the purpose of an assertion in order to judge whether it is "true" or not. But that is mere question-begging.

There is another point which may be worth noting before concluding this section, in order to prevent a possible misunderstanding of the above criticism of Dr. Schiller's emphasis on the importance of context. I did not, and do not, mean to deny that it is very often necessary to pay some attention to context. Of course it is. Only Dr. Schiller, I contend, has very much exaggerated the need of such knowledge, both in extent and in frequency. Nor is this all. As a matter of fact, Logic does, and nearly always did, warn the student to pay attention to differences of context. Such, I maintain, is the essential purpose of the doctrine of the *Suppositio*.* Whether it is possible to do more than to warn people against differences of context, and leave the rest to their common sense or their special knowledge, seems to me highly doubtful. And Dr. Schiller's *Formal Logic*, notwithstanding all its alarums, has done no more than to repeat the general warning in a vastly exaggerated form and in shrill notes. How this ancient and general counsel of perfection is to be elaborated in a more detailed and more helpful manner, the book does not show in the very least.

§ 7. *Samples of Dr. Schiller's Misunderstandings of Logic.*

So much for Dr. Schiller's general, sweeping criticisms, on which he lays so much stress. It would be no very difficult

* For an account of this and further references, see, e.g., my *Studies in Logic*, pp. 5 f., 66-73.

matter to deal also with his detailed criticisms, did time and space permit of it. But such a course is obviously impracticable, and does not fall within the scope of this paper. Still, it may perhaps be advisable just to add half-a-dozen instances of the elementary misapprehensions to be met with in the *Formal Logic*, and which may serve to show that great contempt for Logic must not be accepted as a mark of excessive familiarity.

(1) Judgment is usually distinguished from mere fancy by the presence of belief. One may imagine all sorts of things without believing in their reality, but when we judge we believe what we judge, or, what amounts to the same, we claim our judgment or assertion to be true. Unfortunately there is such a thing as error. One may claim truth for his assertion, and yet be mistaken. The claim to truth does not, therefore, do away with the need of proof, where proof is possible. There is consequently no inconsistency whatever in pointing out that judgments claim to be true, and then proceeding to consider the general conditions of proof. Now observe what Dr. Schiller makes of these simple facts. "On the face of it, every judgment *is* true because it *claims* truth. Judgments as such, then, must be proclaimed true and infallible. Whatever is asserted asserts truth, and no matter how assertions clash and vary, they must all pass as formally true, because none of them confesses to an intrinsic doubt of its own truth. It becomes, therefore, logically impossible to detect an error, a sarcasm, a lie, or a joke. From the standpoint of Formal Logic, errors, sarcasms, lies, and jokes become invisible, and cannot be known to exist."* Dr. Schiller has probably been cured of this delusion by now. It scarcely needs pointing out that the absurdity is entirely of his own making.

(2) It is sometimes stated in books on Logic that the sciences generally seek to establish general propositions

* *Formal Logic*, p. 94.

expressing laws or uniformities, and that particular propositions are mostly regarded as temporary stages in the discovery of universals. "Why," protests Dr. Schiller, "should it be logically more reputable to assert a universal proposition which is false than a particular one which is true?"* Why, indeed? But all this righteous indignation is utterly wasted, inasmuch as Logic teaches no such absurdity.

(3) Dr. Schiller speaks of a logical convention that "an A proposition shall' always be interpreted as a case of



."† But there is no such convention in Logic.

Logic does *not* teach that *Every S is P* implies (as the given diagram implies) that *Some P's are not S*. The non-distribution of *P* in *Every S is P* means that the information contained in *Every S is P* (in the absence of additional information) relates to *some P's* for certain, and that we have no definite information about the remaining *P's*. It does *not* mean that *some P's* are definitely excluded from the reference of the given assertion. Of course, *if we have additional information*, Logic does *not* ask us to confine ourselves to the assertion *Every S is P*, we can add *Every P is S* or *Some P's are not S* according to the nature of our additional knowledge. It is only in the absence of any supplementary information that *Every S is P* must be so interpreted as to leave undecided the question of the co-extensiveness of *S* and *P*. But even then their co-extensiveness is only left undecided, it is not definitely excluded, as Dr. Schiller suggests it is, by logical convention.

(4) Referring to the so-called immediate inferences from, or implications of, *Every S is P*, Dr. Schiller exclaims: "Why should one be compelled to infer from 'All S is P' that therefore

* *Ibid.*, p. 137.

† *Ibid.*, p. 155.

'Some P is S'? Why should one not, even on Formal principles, infer 'No S is not P'?"* But Logic "compels" nobody to do anything. It simply explains all the implications of *Every S is P*, etc. Which of them will actually be utilized on any particular occasion depends on circumstances which do not concern Logic. Dr. Schiller might just as well protest against Arithmetic for "compelling" us to let $100 = 10 \times 10$ rather than 5×20 or 4×25 , etc. Arithmetic simply points out all these equivalents. Which of them will actually be utilized depends on circumstances.

Similarly with Dr. Schiller's whole tirade against the "necessity" of inference.† The innocent fact that certain premisses imply certain conclusions, in the sense that a denial of the conclusion would be inconsistent with the acceptance of the premisses, elicits from Dr. Schiller a protest as though it somehow involved a violation of the liberty of the subject. But really Logic has no police force to compel anybody either to think consistently or indeed to think at all. There is nothing in Logic to prevent anybody from going to sleep, or from indulging in the most extravagant fancies and day-dreams. If the word "necessity" offends one's ears, some other word ("implication," *e.g.*) might easily be substituted for the most part; or one might regain equanimity by reminding himself that logical "necessity" is really the same as the "freedom" or autonomy of reason, and involves no "compulsion." After all if there is such a thing as evidence, the fact of "implication" must be faced and named in some way. Dr. Schiller himself finds it inevitable to refer to it sometimes. If (as appears from his article in *Science Progress*, No. 31, p. 406) he prefers "cogency" to "necessity," there is nothing in Logic to discourage such, or any similar, preference.

(5) Most remarkable of all perhaps is Dr. Schiller's failure

* *Ibid.*, p. 160.

† *Ibid.*, pp. 168 ff.

to appreciate the logical or illogical character of one of his own illustrations. "It may be generally true that 'all men love good stories,' and undeniable that 'Smith is a man'; yet the inference that 'therefore Smith loves this good story,' may be falsified in this particular case by the fact that the story is told about him; and that, therefore, he hates it. Now technically this result may be ascribed to an ambiguity of the middle term. Smith is in general a 'man,' and therefore loves good stories, but he is not a 'man' for the purpose of this particular conclusion."* The "technical" diagnosis of this inconclusive argument is certainly a logical curiosity. The middle term "man" is said to be ambiguous. One wonders what sort of a zoological specimen Smith may be who is a man in general, but not a man as regards appreciation of a particular story! The middle term is really quite innocent. The major premiss, even as stated by Dr. Schiller, does not say that "All men love good stories of *every description*." And the context shows pretty clearly that *stories about oneself* were not included in the major premiss. If the real meaning of the major premiss (as revealed by the context) is taken into account, the legitimate conclusion would be that "Smith loves good stories not told about himself." This is obviously very different from the conclusion inferred by Dr. Schiller. But even if the context is not taken into account, the conclusion, according to the ordinary Logic, would still be only that "Smith loves good stories," which is very different from the assertion that "Smith loves this good story about himself." Anyhow, whatever the point of the illustration may be, if it has any point, it certainly is not a case of ambiguous middle term, as Dr. Schiller says it is.

(6) Another curious criticism made against the syllogism is that "a formally invalid thought may be actually true."†

* *Formal Logic*, p. 200.

† *Ibid.*, p. 350.

This general "objection" is quite irrelevant, because the question considered in the doctrine of the syllogism is, not whether certain assertions are *true*, but whether certain conclusions are *proved* by their ostensive premisses. Nor are the detailed applications of this general objection any more relevant. Here is one of them. "We may argue with what are technically four terms. *E.g.*, 'A is equal to B, B is equal to C, therefore A is equal to C.'"^{*} Now it is only a syllogism that is rendered inconclusive by the presence of four really different terms. The illustration offered is not a syllogism at all. And Logic does not hold up the syllogism as the only kind of valid proof. On the contrary, the tendency is to treat the syllogism as embodying or constituting only one kind or system of order among many such systems of order, and to look upon Syllogistic Logic, even Symbolic Logic, as only a part of a more comprehensive Science of Order.

§ 8. *Logic and Pragmatism.*

It is hardly possible to discuss Dr. Schiller's *Formal Logic* without making some reference to Pragmatism. The name "Pragmatism" does not seem to be mentioned anywhere in the book, but the thing is obviously there, the whole atmosphere of the battle-field reeks with it. Some time *after* the publication of the *Formal Logic* Dr. Schiller actually admitted that the whole attack on the existing Logic was made in the interest of Pragmatism.[†] It seems a somewhat curious comment on Dr. Schiller's constant insistence that meaning cannot be divorced from purpose, that he did not think it necessary or even advisable to preface his book with an explicit statement of its real purpose. But let that pass. To some people Dr. Schiller's apparent admission that Pragmatism is not compatible with the accepted Logic may look rather like a

^{*} *Ibid.*, p. 186.

[†] See *Mind*, N.S., XXII, pp. 244 f.

capitulation into the hands of the enemy. But let that also pass as a mere indiscretion. Anyhow, it is clear that some attention must be given to Pragmatism in discussing Dr. Schiller's *Formal Logic*. Fortunately it is not necessary for the purpose of this paper to discuss the whole subject. What little I have to say on Pragmatism as a whole I have already said elsewhere.* Here we need only consider some of its bearings on Dr. Schiller's criticisms of Logic, and this may be done with sufficient brevity.

Generally speaking, the differences between Pragmatism and other philosophies are philosophical differences which, in my opinion, lie beyond the province of the strictly logical problems. If I may be allowed to defend Pragmatism against its own high priest, I should say that the existing Logic is not so utterly opposed to Pragmatism as Dr. Schiller seems to think, and that they even have in common a certain tendency toward empiricism. Of course, it is an empiricism which does not preclude the possibility of an ultimate idealist explanation. If this is regarded as a somewhat ambiguous position, I can only say that it is a correct attitude for a Logic that is Logic and is not also a Philosophy.

Turning to Dr. Schiller's *Formal Logic*, it appears to me that the book simply assumes the validity of Pragmatism, and then proceeds to condemn Logic (as it conceives or misconceives it) because of its alleged incompatibility with Pragmatism. But this is mere question-begging. Some of the criticisms, for instance, clearly assume that "truth" and "proof" are the same thing.† Now this may be so for pragmatist epistemology, but it is certainly not the view of common sense and of science. In everyday life and in science it is usually assumed that beliefs may be true even if they cannot be proved, and that such beliefs as are proved are not *made* true by being proved, but

* *Proc. Arist. Soc.*, Vol. IX, pp. 141 ff., 174 ff., and *Hibbert Journal*, Vol. VIII, pp. 904 ff.

† See, e.g., *Formal Logic*, p. 186.

rather must already *be* true in order that they may be *proved* true. From the standpoint of Logic, as from the standpoints of common sense and science, "truth" is a much more comprehensive term than "proof," and Logic is concerned with the problem of "proof," not with the more comprehensive and philosophic problem of "truth." In so far as Logic employs the term "truth" at all, it employs it in the ordinary sense without troubling about its epistemological difficulties. A truth is a belief or an assertion that conforms, or corresponds, to reality. Such is the popular and scientific assumption. Whether such a view can be proved to be sound or not, does not, and need not, trouble either the man in the street or even the scientist. And Logic moves on the same level of philosophic depth as do common sense and science.

Dr. Schiller is, therefore, illicitly reading Pragmatism into Logic when he first identifies "truth" with "proof," and then condemns various logical doctrines in consequence of this identification. For example, Logic teaches that the conclusion of a syllogism with an undistributed middle term (with the familiar exception of the form *Most M's are P, and most M's are S, therefore some S's are P*) is not valid. This simply means that the conclusion is not *proved*. Dr. Schiller makes it mean that the conclusion cannot be *true*, and has, of course, an easy task to refute, not indeed the logical doctrine, but his pragmatist misconstruction of it. Misled apparently by the same misapprehension, Dr. Schiller actually goes so far as to assert that, according to "false" Logic (which is presumably, like "Formal Logic," only an *alias* for existing Logic), "no man has a right to believe in what is not fully proved, and it is our duty to demand absolutely conclusive evidence before we lift a hand or stir a foot."* The only one that I can think of who has ever said anything at all like this is Huxley.† And

* *Science Progress*, No. 31, p. 406.

† *Method and Results*, p. 40 of the Eversley edition.

Huxley, needless to say, was, not a logician, but an eminent representative of Science, in the supposed interests of which Dr. Schiller desires that Logic should be thrown overboard. Logic teaches nothing of the sort. On the contrary, it is pretty obvious from any modern book on Logic that everything cannot be proved, not even the fundamental assumptions, the so-called Laws of Thought, on which the very possibility of proof and disproof is commonly supposed to depend. Dr. Schiller is, therefore, also incorrect in asserting that in Logic "it is assumed that 'proof' must always *start from certainty*."* What is assumed is that the conclusiveness of a proof varies with the reliability of the evidence, which is another matter. Many logicians, perhaps most of them, as a matter of fact, hold the "harmony" theory of the criterion of truth; and this does *not* require a "start from certainty." Dr. Schiller also seems to have overlooked the fact that Logic deals with *probability*, or with merely probable proof, as well as with exact demonstration. Logic, in other words, not only distinguishes between "truth" and "proof," but also between different kinds and degrees of proof, representing different degrees of approximation to exact demonstration—though it is neither practicable nor desirable to discuss exhaustively all such degrees of cogency. Pragmatism may be indifferent to all such distinctions, but Logic is not, and it is no use confounding the two points of view.

Again, the Pragmatist or Humanist conception of Reality seems to be that of a plastic world readily moulded by human intervention. This leads Dr. Schiller to insist that "facts" and "laws of nature" are all man-made, and that the right course for man to take, even for the scientific man, is to dare, to risk, to "bluff." Now this is not the common-sense and scientific view which underlies logical theory. At the same time it is as well not to exaggerate the differences

* *Formal Logic*, p. 234.

between them. After all, nobody denies that *something* can be, and is, achieved by human intervention. Nor does Dr. Schiller believe that *everything* can be effected by human postulation. He admits that nature is often recalcitrant to human postulations, and that "facts" and "laws" are "man-made" only "in a sense." The real question is, whether the sense in which they are *not* man-made is not more important than the sense in which they are. On this point also I venture to say that common sense and science are not on the side of Pragmatism or Humanism. And it is not the business of Logic to be more profound than Science is.

Dr. Schiller, it is true, is not satisfied with the modest programme of the existing Logic. His "Psychologic" is to be something much more ambitious. It is to include apparently an elucidation of the art and science of making discoveries and inventions, it will include — indeed, what is there that it will not include? Even so one is inclined to ask, What light will the philosophy of "bluff" help to throw on the problems and methods of science? what insight can it afford into the ways of discovery and invention? After all, "bluff" is only another name for the "method of trial and error," which seems to be common to all kinds of animal organisms, even to micro-organisms. Can it be said that any real explanation of them is offered, or that any deeper insight into them is afforded when the highest activities of the human mind are assimilated to the primitive methods of the protozoa. "Bluff" appears to be one of those "magic words" that fascinate Dr. Schiller. But it really is not the key to all the secrets of the universe.

Moreover, too much faith in "bluff," born of an excessive proneness to identify "truth" with "success," may easily lead to results which to ordinary people would certainly appear highly objectionable, and for which Dr. Schiller also professes abhorrence—I mean intolerance and all forms of bullying, to say nothing of severer forms of persecution. Dr. Schiller himself has remarked that the pragmatist view of "truth" may

give rise to such "delicate questions" as the justification of persecution, since "what receives social recognition for this very reason largely works," that is to say, is made "true" (in the pragmatist sense), while *per contra* what meets with intolerance for this very reason does not work, that is to say, is made "false."* Mr. Bertrand Russell has consequently insisted that Pragmatism "is inherently connected with the appeal to force."† And one is rather tempted to look upon Dr. Schiller's *Formal Logic* as some slight confirmation of Mr. Russell's suspicions. Certainly the bellicose style of the book, its free invective against Logic and the whole race of logicians, are not calculated to inspire one with confidence in the tolerant spirit of Pragmatism, which is proclaimed by Dr. Schiller to be the great cure for all forms of intolerance. If one had to choose between Logic and Pragmatism (or a "Psychologic" based upon Pragmatism), I for one would put my trust in Logic, rather than in Pragmatism, as a means to the furtherance of intellectual sanity and mutual good will. Fortunately there is also something in the sheer common sense of mankind that makes for these ends, even independently of those means.

§ 9. *Concluding Remarks.*

My impression of Dr. Schiller's *Formal Logic* as a whole might be summarised in a sentence or two. Parts of it are quite irrelevant to the real problems of Logic—a fact already betrayed by the way in which "Logic" and "Philosophy" (or "logicians" and "philosophers") are used as though they were synonymous terms. Parts of the book are new but not true; others are true but not new—though sometimes re-stated in an interesting manner. Nothing in the whole book affects the value of Logic, which it has been the chief aim of this paper to vindicate against Dr. Schiller's general condemnation. My task

* See *Humanism*, pp. 59 f. in 1st edition.

† *Philosophical Essays*, p. 124.

is now finished—with what success, I must leave to the judgment of others. Logic, as Dr. Schiller admits, is one of the oldest of studies, and has numbered among its votaries some of “the ablest and acutest intelligences the human race has produced.” One would imagine that *prima facie* this alone is sufficient testimony to its worth. And Dr. Schiller’s *Formal Logic* contains nothing to shake this estimate.

Like every other study, Logic is undoubtedly capable of improvement in various ways, and any criticism that may be helpful in effecting such improvement certainly deserves attention. I entertain no unreasonable admiration for what is old merely because it is old. “Old things need not be therefore true.” I have myself said and written about various portions of Logic things which are not orthodox. The more genuine criticism, the better for Logic. The more Logic is kept abreast of the sciences, the better. But in Logic, as in other things, criticism can only be helpful if it is born of sympathetic insight, not if it is the outcome of the sort of antagonism that comes of a feeling of grievance, real or imaginary. If it is wrong to show excessive reverence for the past, it is no less wrong to be impetuous in the interests of what is merely novel and likely to shock.

“Old things need not be therefore true,
O brother men, nor yet the new.”

I have no liking for controversy. If it had rested entirely with me, I should not have entered the arena at all. After all, the best refutation of adverse criticisms of Logic is to teach it in such a manner as not to merit them. Unfortunately, I was not allowed to indulge my pacific tastes on the present occasion. But, while yielding to the urgent request of the Aristotelian Society to deal with Dr. Schiller’s *Formal Logic*, I have endeavoured to be as impersonal and objective as it is possible to be when dealing with the views of a particular writer. It might have appeared more impersonal if instead

of naming Dr. Schiller so often, I could have referred to Pragmatism or Pragmatists in general, even as Dr. Schiller refers to Logic and Logicians in general. But it seems to me that if anything not particularly flattering has to be said, matters are not improved, but made very much worse, if it is said indiscriminately of a whole class of people, rather than of the particular individual or individuals concerned. Needless to say, I have no personal grievance against Dr. Schiller. On the contrary, if I may say so, I esteem his abilities and his personal geniality. I hope that this paper is really as objective as it could be, and was meant to be. For my object throughout has been to show, not *who* is right, but *what* is right.

II.—By F. C. S. SCHILLER.

- § 1. Introductory.
- § 2. Formalism and Pragmatism.
- § 3. Logic *v.* Science.
- § 4. The Formalism of Logic.
- § 5. Dr. Wolf's Notion of Logic.
- § 6. The Social Effects of Formal Logic.
- § 7. The Educational Value of Formal Logic.
- § 8. The Lacunæ in Dr. Wolf's Case.
- § 9. Appendix. Dr. Wolf's Criticism of Details.

I MAY preface my Reply to Dr. Wolf by stating that it will contain no reply to his personalities. I regard them as a deplorable irrelevance in the discussion of important scientific questions, for which there was no justification in my contentions. But as the logical significance of 'abusing the plaintiff's attorney' is by now pretty well understood, I shall address myself exclusively to the logical aspects of Dr. Wolf's defence of 'logic.'

It will, however, be more illuminating, if I am permitted to alter his order of topics into something more consonant with their relative importance, alike in fact, in my mind, and in my book. I shall endeavour, therefore, to elucidate first the

connexion which exists between my criticism of Formal Logic and pragmatism.

§ 2. *Formalism and Pragmatism.*

In his § 8 Dr. Wolf seems to take credit for discovering that there is a connexion between the rejection of Formalism and the adoption of Pragmatism, and even bases on his discovery a charge against me of wickedly (and inconsistently) concealing the purpose of my book. But this connexion was the very thing I was myself trying to bring out. I had from the very first insisted that the mission of Pragmatism was to reform logic, and to make it into something better than "a systematic misrepresentation of our actual thinking."* Again, in *Mind*, No. 56, pp. 244-5, I had explained elaborately *why* it was necessary to eradicate certain errors and prejudices which the study of Formal Logic fostered, in order to perceive the truth and beauty of the pragmatist epistemology. Lastly, in the Prefaces to the new editions both of *Humanism* and of *Studies in Humanism* I stated as plainly as possible that Pragmatism demanded a systematic criticism of the traditional 'logic,' and that, as *Formal Logic* had now satisfied this requirement, the pragmatist doctrines in all three could henceforth be regarded as aspirations and prolegomena to a future logic of Real knowing, which I hope to publish some day.† Even if I had not explicitly avowed these ambitions, no person of ordinary intelligence who was at all conversant with the literature of the Pragmatic Controversy could have

* *Humanism* (1903), p. x.

† I think it would have been more prudent if Dr. Wolf had refrained from basing arguments on his (not very intelligent) anticipations of the probable contents of what I should myself prefer to call my logic, but am willing to call 'psychologic,' if Formalism claims pre-emption of the name. For he neither appears to have understood, nor even to have noticed, the contributions to such a logical reconstruction as are contained in my *Formal Logic*, and has evidently made no attempt to correlate them with my other doctrines.

failed to observe that on the one hand pragmatists, like William James, have been constantly forced to disavow 'logic' (*i.e.* the intellectualist accounts of that science), and on the other that their opponents have always been trouncing them for so doing, and denouncing as 'irrationalism' their dissent from the logical tradition. Clearly, therefore, an explicit account of the faults Pragmatism finds in 'logic' was urgently needed. That it was not written first, so as to form the logical introduction to Pragmatism, is an historical accident. Anyhow it is now in existence, and forms an indispensable preliminary to any one who wishes to ascertain the real meaning of Pragmatism.

But just because a criticism of the tradition is the logical presupposition of any real reform of Logic, it was not (logically) necessary to mention the constructive purpose I had in mind. I had also the further (psychological) justification that any mention of Pragmatism would be sure to act like a red rag on a bull, and side-track the strictly logical discussion I was desirous of starting.* But I certainly supposed that any one who had understood anything at all about Pragmatism would at once recognize the positive and systematic basis of my criticism. Whether any form of Pragmatism can be logically maintained, without a far-reaching correction of the traditional logic, is perhaps arguable, though I doubt it; but there can be no doubt that if the corrections I have advocated in *Formal Logic* are allowed, they lead directly to a thoroughgoing Humanism. For if the attempt of Formalism to *depersonalize meaning* breaks down, as I have shown it does everywhere, it certainly follows at once that the *meaning* of every assertion, and *a fortiori* of every philosophy, depends ultimately on the human context in which it arises and flourishes, and the pretence to abstract from this loses the last vestiges of its plausibility. Hence

* I must make this my excuse also for not discussing on this occasion Dr. Wolf's objections to Pragmatism, which, though not altogether unintelligent, are easily answered.

while I am willing to concede to writers like William James and Henri Bergson that there may conceivably be an irreducible discrepancy between the requirements of life and of logic,* I think that the connexion between Humanism and the attack on Formalism is at any rate sufficiently close to render hopeless of success any attack on the former which has not previously repulsed the attack on the latter. This situation no doubt adds a general philosophic interest to the dispute about logic, but I can see no harm in this, as I do not (any more than the great majority of logicians) share Dr. Wolf's belief that Logic can be disconnected from psychology, epistemology and metaphysics.

Dr. Wolf, however, is not content with discovering the obvious. He has discovered also that I have not only argued consistently from a humanist basis, but also that I have consistently used the notions of 'truth' and 'proof' in a humanist sense; so he protests that I have thereby begged the question. Now I do not see what else a writer was to do who believes himself to have shown that the humanist sense of 'truth' is the only one that makes sense, that the other 'senses' are strictly nonsense,† and that the notion of Formal proof' is nugatory and impossible; but letting this pass, I may point out that Dr. Wolf's objection would merely illustrate one of the queer anomalies I had observed Formalism to lead to, viz., that it is impossible to discriminate formally between the virtue of arguing consistently and the vice of begging the question (*Formal Logic*, p. 360). It will therefore be a sufficient reply to this count of Dr. Wolf's indictment to invite him to effect this discrimination.

* I am not, of course, positively asserting this.

† Dr. Wolf prudently abstains from saying what the 'ordinary' senses of 'truth' and 'proof' are.

§ 3. *Logic v. Science.*

I have thought it necessary to begin by explaining the general philosophic import of my criticism of the logical tradition, because it seemed to me likely that misunderstandings on this point would greatly obstruct comprehension of the rest of my reply, but intrinsically I consider the more intricate question of the relation of logic to the sciences as of even greater importance.

Here I may begin by traversing Dr. Wolf's airy assumption that 'logic' (as he understands it) harmonizes with common sense and science. I give abundant reason for holding that they are utterly disparate. He, however, when exception is taken to some glaring inconsequence in Formal Logic, appears to consider it an adequate reply to declare that "it is not the business of Logic to be more profound than science is," and that "what is good enough for the sciences is good enough for logic." This is hardly aiming high in a philosophic sense, though it would be something, if the claim could be substantiated. Beyond this, Dr. Wolf can only quote some logicians who have said nice, respectful things about the sciences in a vague general way, and a few scientists who have reciprocated with a similar vagueness, and plead a general probability that where there is so much deference on both sides there cannot be anything seriously amiss. My reply to this plea is simply that something more specific than such amiable platitudes is required to exonerate Formal Logic from my definite and detailed accusations of ignoring and misrepresenting the procedures of actual knowing. As Dr. Wolf has failed to mention any of them I append a list, it will elucidate what I mean.

Formalist accounts of Logic ignore—the more ruthlessly the more consistently they are worked out—

(1) the experimental nature of thought, the hypothetical character of actual reasoning, and its essential relation to doubts, problems, and alternatives (*F. L.*, pp. 339, 404),

(2) the impossibility of attaining *absolute* truth, due to the facts (a) that scientific 'truths' are never fully proved up to the standard of 'valid' proof, and (b) that the method of scientific verification, which argues from 'effect' to 'cause,' always involves a formal 'fallacy' of 'affirming the Consequent' (*F. L.*, pp. 192, 224, 243, 347),

(3) the need for testing all assertions, even 'principles' and 'axioms,' and revising them continually in the light of their 'working' (*Science Progress*, p. 399),

(4) the need for entertaining a plurality of hypotheses, in order to minimize the danger of overlooking relevant facts (*Science Progress*, pp. 401-2),

(5) the cardinal importance in science and life of this notion of relevance (*F. L.*, p. 268).

Furthermore Formal Logic fatally misrepresents such essential scientific procedures as—

(6) Classification and definition (*F. L.*, p. 55 f., 62 f.),

(7) the incomplete dependence of scientific conclusions on the certainty of their premisses (*F. L.*, pp. 234-5),

(8) the nature of 'Deduction,' which it makes an *ex post facto* account that either ignores or perverts our actual reasoning (*F. L.*, pp. 171, 197-8, 221),

(9) the nature of 'Induction' (*F. L.*, p. 266 f.),

(10) that of causal analysis (*F. L.*, pp. 279, 282, 306, 312),

(11) that of natural 'law' (*F. L.*, p. 312); and

(12) the inter-relations of 'laws of nature' and the 'cases' which exemplify them (*F. L.*, p. 317 f.).

I think it will be admitted that these charges are serious, if true, and that Dr. Wolf has made no attempt to meet them.

I will add only (1) that the sciences in whose interests the charges are brought are primarily the sciences which are openly empirical in their nature, and that I am fully aware that the (pure) mathematical sciences are supposed by some not to be empirical in their nature and have often been supposed by logicians to have provided them with model illustrations of their

doctrines. I myself hold that both of these contentions are unsound, but as I cannot here go into this, I will content myself with quoting Mr. Bertrand Russell, to whose authority Dr. Wolf also has appealed, and who says positively that "the old inductive philosophy as exemplified in Mill's logic, conceived the nature and scope of induction far too narrowly Induction, though it cannot give complete certainty, underlies all the sciences, even pure mathematics."* This seems good enough, though even if it were a mistake, and mathematics were pure *a priori* sciences and their procedure had been correctly analysed by Formal Logic, this would not in the least affect the facts that it had analysed falsely the procedure of the empirical sciences and that there was great need of a logic that would do so correctly. (2) I will state for what it is worth the impression which a long course of science reading (especially in *Nature*), conducted with special attention to the logical implications of scientific procedures, has left upon my mind. I have found that whenever scientists describe the actual procedures by which they have reached their results, they invariably represent them as pragmatic; but whenever they are seized with doubts as to whether they have been proceeding in a logically legitimate way, and look up the text-books and try to make their practice square with the precepts they find there, they break down, often in a very pathetic and ludicrous way. These observations have of course contributed greatly to the unfavourable view I have taken of the scientific pretensions of Formal Logic.

§ 4. *The Formalism of Logic.*

On this topic I am disposed to think that Dr. Wolf does not really give me much to answer, though he says a good many things about which he may himself fairly be arraigned. My own position is surely quite unambiguous. I have taken great pains to define what I mean by 'Formalism,' and to avoid confounding

* *Philosophical Essays*, p. 104.

it with 'logic,' or regarding it as essential to the latter's welfare. On the contrary, I have treated it as the chronic disease which destroys the usefulness of logic. I have also stated quite plainly that no extant logic is pure unadulterated Formalism (if for no other reason than that it is impossible to make Formalism formally consistent), and that few logics are wholly free from this taint. But I have never denied that there is legitimate scope for a reasonable study of logical 'form,' and even a sense in which logic may be called a formal science. I did not dwell on this in my *Formal Logic*, because I conceived it to belong rather to its constructive sequel, but my adoption of Professor Boyce Gibson's valuable distinction between 'Formal' and 'formal' implies as much (*F. L.*, p. 4 n.). Dr. Wolf has apparently not observed this, and so does not see that a logic is possible which will treat of forms of reasoning without attributing to them a disembodied existence independent of any matter and without imagining that the distinction between 'true' and 'false' is extra-logical and that rules about 'formal validity' can be conclusive about the truth of anything. My point, therefore, plainly was, not that logic is not entitled (like the sciences) to make abstractions, but that (unlike the sciences) it has made bad abstractions, and handled them wrongly and arrived at grotesque conclusions, or in short that *the abstractions of Formal Logic do not work*.* And all this was illustrated specifically and copiously in every chapter of my book. The obvious inference is that the abstractions of logic must not be carried to this self-defeating pitch, and I see no difficulty

* In particular, the assumption that there is *no logical connexion* between the 'truth' and the *use* of logical forms may be instanced as one of the worst and most fundamental of such false abstractions. Dr. Wolf quotes my protest against it in *Formal Logic*, p. ix, but appears to understand neither its motive nor its scope. It is, of course, this assumption that leads to the fatal abstraction from meaning by Formalism, to the depersonalization of thought, and to the widespread inability to see that the relation of use to truth is not extraneous and accidental, but inherent and vital.

whatever in so moderating the pretensions of Formalism as to make even a kind of Formal Logic quite an intelligible and teachable (if not a very profitable) subject.* It is clear then that Dr. Wolf's accusations here rest on his failure to notice my distinction between 'formal' and 'Formal,' and his inability to conceive any but the traditional treatment of 'forms.'

But he gets into still deeper waters when he endeavours to supplement the "inexactness" of my account of Formalism, and to give "a succinct account of the real character of logic." It will be instructive to follow his wanderings here, because he illustrates so admirably my (disputed) contention that logicians rarely know either how Formal or how inconsistently Formal they are. Moreover by taking my illustrations from himself I may perhaps succeed in bringing home to him more directly than by mere abstract reasoning what I mean both by Formalism and by its necessary inconsistency. For I am of course far from implying that he is a purely Formal logician; he is rather a normal logician in the blend of doctrines he offers to our scrutiny.

Dr. Wolf begins by telling us that "the central theme of Logic is Proof," but that by "proof" he does not mean "absolute demonstration" only, but any method by which one assertion may be supported by other assertions, which may give it more or less probability or certainty according to the nature of the evidence (real or assumed). This does not tell us how the logical chasm between the methods of probable reasoning (which he recognizes also in § 4) and "absolute demonstration" is to be bridged; but it does illustrate beautifully the nature both of Formalism and of its inconsistency. For while it

* It might, *e.g.*, confess itself to be (what in fact it is) an analysis of language and a manipulation of the 'dictionary-meanings' of words. It is only because it claims to be something so vastly superior both to grammar and to psychology that it is necessary to pin it down so relentlessly to the alternative 'either verbalism or psychology,' and to show that it cannot afford to be consistently either, so long as it maintains its pretensions.

affirms the Formalist *ideal* of a 'proof' which shall be absolutely 'valid,' but is nowhere realized, it also commits Dr. Wolf to a recognition of probable reasonings which are 'valuable,' and do exist, but can never become 'valid,' because of incurable defects inherent in their origin. Between these two disparate conceptions a bond of union is generally supposed to be created by the metaphorical word 'approximation'; but if Dr. Wolf desires to avail himself of this expedient, he should at least endeavour to explain how probable reasonings can be said to 'approximate' to an ideal which they outrage and depart from at every step, and how a formal procedure can serve as a model to concrete reasonings which are disavowed in all their most characteristic features and supplanted by ideal postulates which are psychologically impossible or absurd. At any rate it seems legitimate to require a warrant for a double use of 'proof' which attempts to cover by a common term procedures so radically different as the methods employed by the sciences on the one hand and the ideal representations which are substituted for them on the other by the false analyses of Formal Logic.*

The peculiar blindness to the discrepancy between logical theory and scientific fact, which infection with Formalism generates in the logical mind, is illustrated further by Dr. Wolf's struggles with the simple, but to him almost unintelligible, doctrine that the meaning of every judgment can be inferred only from a knowledge of its context, and that *until it is used* a form of words has no meaning, and cannot therefore be a fit subject for logical consideration. Dr. Wolf, after showing that he has not understood this,† proceeds to

* Even if Dr. Wolf should find it impossible to justify his ambiguous use of 'proof,' he might at least explain how far he goes with Mill. Does he, too, hold that 'induction' can attain to the rigour of deductive 'proof'?

† In § 6 he actually imagines that he can refute the contention that in order to know what *it is not* means, a fully particularized context must

object that common-sense and science also abstract from psychical context, and eliminate "the personal equation," to get at objective results. So why should not logic? It is easy to answer this question. Common-sense and science proceed in a very different way from Formal Logic, and get at valuable results, whereas Formalism arrives at nonsense. An astronomer, for example, before he 'eliminates the personal equation' of observers, first evaluates it; *i.e.* he first embarks on a long and laborious process of experimentation which enables him to make the desired corrections. That is, he eliminates it after, and by means of, first recognizing it. The logician on the other hand does the very opposite; he eliminates it without recognizing it, blindly and carelessly. He just postulates that all men are equal and that one man is as good as another, without investigation, and apparently from pure *a priori* indolence. Indeed he does not seem to be aware of what he is doing, and to be much surprised and puzzled subsequently, when he finds that he has inadvertently abstracted from real meaning and based his 'science' on a meaningless 'law of Identity.' Nevertheless he stubbornly refuses to reconsider the policy that has led to disaster, and when he is summoned to take part in a more strenuous and conscientious investigation,

be given, by adding "that the remark was made in the Bodleian Library on the 20th February, 1914, at 2 P.M., and that the temperature was 70° F.," because "it is quite easy to express this in a proposition." Of course it is, if you happen to have this further information; but how does it help Dr. Wolf in the logical contemplation of the bare *it is hot*? Nor does even this information completely determine the meaning. It doubtless renders it more probable that 'it' was a room, and not the weather, or the soup, or the poker, or red pepper; but it still remains undetermined whether the actual meaning of the remark was to convey information, to dispute an assertion that *it is cold*, or simply to make conversation. And how the fact that, when we have taken an ambiguous proposition, the possibilities of misunderstanding may be diminished by obtaining further information about the occasion on which it was used can subvert or affect the doctrine that the logician's first duty should be to find out from its use the actual meaning of the proposition he wishes to treat, I am at a loss to understand.

he cries out that this is 'scepticism,'* and that it would be a 'miracle' if he could ever find out what any one really meant!

Yet no one can be a pure Formalist all the time, and Dr. Wolf also has accesses of common-sense and human feeling, during which he relents perceptibly. He then no longer scouts entirely a knowledge of the exact context and real meaning of the judgments to be subjected to logical treatment, though he still insists that its importance has been much exaggerated. So he confesses that logic does not abstract from context altogether, but only "largely," because context "is as a rule of little importance"; or again, he does not "mean to deny that it is very often necessary to pay some attention to context." And finally he recommends his own account of the *suppositio*.†

Much of the above is quite sensible, though it hardly seems to be expressed in exact quantitative language. No doubt the facts do not admit of such exactness. But would it not be simpler, and more candid, to do as I did, viz., to state generally that the occasions when context may successfully be neglected cannot be exactly determined in advance, and to warn the reasoner that this procedure must always be risky?

Finally I may here be permitted to welcome Dr. Wolf's acceptance of the notion of Relevance. True, he appears to introduce it primarily in order to accuse me of unfairness

* Dr. Wolf entirely agrees on this point with Mr. F. H. Bradley. (Cf. *Mind*, XIII, p. 309 n., and *Studies in Humanism*, p. 96.)

† An excellent thing the *suppositio*, so far as it goes! But it only indicates what in general an argument is about, and does not necessarily divulge its particular meaning. Nor is it properly a Formal subject, as some of the stricter Formalists perceive. However, it may very well be that Dr. Wolf and I agree about it (cf. *F. L.*, pp. 30-1, 108). I have not, unfortunately, been able to look up his reference, because he only left me the inside of an otherwise very busy week in which to compile my reply to him.

towards Mill, and hardly seems to realize its full import.* But I think that upon reflection Dr. Wolf will himself drop this charge. I will not rely on the absence of the *word* relevance from Mill's formal statements of his methods; but surely Dr. Wolf must credit him with some regard for the consistency of his system and some attachment to his empiricist prejudices. He must surely see that the adoption of so selective, voluntaristic and 'risky' a notion as relevance by Mill would not only have been formally incompatible with his conception of Causation, but would have knocked his whole account of 'induction' into smithereens. As for the *de facto* relevance of Mill's illustrations the explanation is quite obvious: they were drawn from the practice of the Sciences, and their relevance was not of Mill's making. Now the sciences have *of course always* concerned themselves with relevant facts, and neglected what seemed irrelevant for their purposes, though it is only quite recently that logicians have been found to observe and appreciate this procedure. So all that can be extracted from this is only one more illustration of the old story that the *theory* of scientific thinking (which is 'logic') has often fallen short of its *practice*, which is the sciences.†

§ 5. *Dr. Wolf's Notion of Logic.*

I think it will be necessary to make some comment on Dr. Wolf's delimitation of the sphere of logic, not because I wish to question his right to make logic mean what he pleases (like the other logicians), but merely in order to throw some light on the curious limitations of his conception, and the consequent incompleteness of his defence, even of Formal Logic. Dr. Wolf seems to conceive logic as a wholly independent,

* I venture to think that no one who has perceived how all-pervasive dependence upon relevance is in all processes of actual thinking can avoid remodelling logical theory from top to bottom, or help becoming a humanist.

† Cf. *Mind*, No. 82, p. 153 f.

self-supporting and self-sufficing science with definite boundaries and an unquestioned jurisdiction, which enable it to hold its own against such aggressive neighbours as epistemology, psychology, metaphysics and grammar. He also assumes that this realm of logic, guarded by Messrs. Mill, Jevons and Venn, the "English logicians" (of the last generation), has existed from the first and has been universally respected, and that any attempt to invade it or to alter its frontiers and its constitution must be resisted as a sacrilege. True, if his language is examined closely, it hardly seems to justify this view of logic and he has to make several vague but extensive concessions to epistemology especially, which would probably be found to establish a *condominium* over a large part of the logical field; but there can be little doubt that what I have described represents what Dr. Wolf would like to believe to be the truth about logic.

Now while I would not dispute that at a very low level of logical insight, and in expounding the subject to learners of a very limited intelligence, it may be natural, and even necessary, to convey such an impression of the position of logic, I must protest that it does not form an adequate conception for a truly philosophic discussion. It seems profoundly unhistorical, rationally untenable, and false in fact.

In the first place it is not historically true that logic came into being without the aid of metaphysics. On the contrary it was vitally dependent on the metaphysics of Aristotle, and, as I showed, many very important parts of Formal Logic remain to this day indelibly stamped with the impress of Aristotelian and Platonic metaphysics and have real significance only in the context of such metaphysics. Moreover the real Formal Logic, as taught not only in Oxford, but all the world over by the very able logicians of the Catholic Church, is still essentially Aristotelian. Yet Dr. Wolf entirely ignores Aristotle, and the logical problems he has so successfully set to succeeding generations. He ignores similarly the very shining example of a metaphysical logic

which is afforded by Hegel, and would find it hard to refute the contention that the logic of every systematic thinker has been closely correlated with his metaphysics.

Secondly, it would not be difficult to show that the separation of logic from its neighbours among the philosophic sciences is only an artificial *tour de force*, which can only be defended as an arbitrary concentration upon a special purpose, and that in fact a logical inquiry which is to be conducted with no regard to psychology, epistemology, and even ethics, is simply unthinkable.

Thirdly, it does not seem to be at all true that all (or any) logicians are agreed about the limits of their subject, either now or at any time. It is in fact at present the cock-pit of philosophy and it is far truer to say, with Mr. Joseph, that the common ground of logic is only a fighting ground.* Nor is it true to say even that the "English logicians" are agreed. They are not all empiricists of the type Dr. Wolf presupposes; in fact, the preponderance of logical authority at present regards this type as quite antiquated, and as having been confuted 30 years ago by criticisms to which no answer has ever appeared. Surely Dr. Wolf is not entitled to ignore these facts. He must be familiar with the very considerable works on logic which have emanated from Oxford, and may perhaps be collectively described as 'idealist' logic. I hope further that Mr. Sidgwick, Professor Dewey, and I have, at any rate, established the fact that a very distinctive sort of logical attitude may be connected with pragmatism. In Ireland, I believe, the divergence of logicians goes so far that in the University examinations two sets of logic papers have to be set, the one of Catholic, the other of Protestant, logic. Nor was there complete agreement even among the "English logicians," even in the past. I beg to submit to Dr. Wolf a quotation from Dr. Keynes, whom he would, I trust, recognize as an eminent exponent of the views

* *Introduction to Logic*, p. 11.

to which he restricts the name of logic. Writing in 1879, he concludes that "we arrive then at the conclusion that writers like Whately and De Morgan, who have recognized the fact that Formal Logic should treat of language, have insufficiently realized its subjective side; that in the case of writers like Mansel and Hamilton, what they profess to give is a useful and necessary study, but is in itself a branch of Psychology, whilst there is another branch of investigation which they have more or less neglected; and that Mill speaks inconsistently of the position of Formal Logic in different parts of his writings."* A little research should also convince Dr. Wolf that Jevons not infrequently fell foul of Mill. In short, as Dr. Wolf ascribes to me an especial fondness for the word 'bluff,' I will venture to apply that term to the pretence that logicians present a united front to the enemy, whether within or without their camp. But I do not think that on this account logic need be going to the dogs or be thrown to the wolves.

§ 6. *The Social Effects of Formal Logic.*

The only essential portions of Dr. Wolf's paper which remain unanswered are his protests against my estimate of the social and educational effects of Formal Logic. In my book this estimate occupies merely the place of a corollary (in Ch. 24, § 8, and Ch. 25) and I do not myself regard it as an integral part of the logical case against Formal Logic, which fills the rest of the book. And, needless to say, its aim was not to prove up to the hilt, and to expound in full detail, how Formalism entailed the harmful consequences I traced to it. To do this completely, much historical and psychological research, and several volumes, would have been needed. I was aware, therefore, that I was only throwing out hints; but I was not speaking at random. I enumerated five erroneous ideals of Formal Logic (compulsion, fixity, certainty, absoluteness, and unity), and showed how they

* *Mind*. Vol. IV, p. 370.

reappear in science, religion and social life, and produce or reinforce certain evil tendencies in human nature. If Dr. Wolf desired to confute me, he should at least have referred to the arguments on which my conclusions were based. But this he has not done. He merely declares them "baseless," and accuses me of absurdly maintaining that things so contrary as scepticism and fanaticism can spring from the same source; and again, dogmatism and contentiousness. Now, in view of the great variety of human temperaments, it would not be at all surprising that in different persons such contrary effects should be traceable to the same influence, just as the belief in predestination has encouraged some and reduced others to despair; but I had in fact carefully explained these apparent paradoxes. I had argued (*F. L.*, p. 402) that in point of intolerance there was not a pin to choose between the Formally-trained fanatic and the Formally-trained sceptic, and referred to the unmediated extremes of doctrine which notoriously prevail on the religious question all over Continental Europe. I had also pointed out that on any rationalist conception of knowledge the theoretic case for intolerance was unanswerable, and that however expedient toleration might be in fact, it must be wrong in principle. On the other hand, it is evident that with a conception of truth which does *not* make it impossible that verbally contradictory views may each be right and reasonable, relatively to different situations, and stimulates every one to find out what is the *best* view for himself, the clash of opinions must be mitigated.*

Similarly, there is no incongruity in arguing that Formalism fosters both logic-chopping and dogmatism, without improving reasoning (*F. L.*, p. 387). For logic-chopping is merely playing with words, and not real thinking at all, but rather a bar to it. Nor has it anything to do with real discrimination: as

* For a fuller discussion of this point I may refer to *Humanism*, Ch. 15 (ed. 2).

Mr. Sidgwick has explained so unanswerably, the Formal conception of ambiguity is only calculated to impede the detection of the really misleading ambiguities (*cf. F. L.*, pp 26, 27). Moreover, as I pointed out, there is reason to believe that when Formal logicians have really to reason, they fling their logic to the winds, and become just as prone to formal fallacies as ordinary mortals.*

Of course the results might be different, if it were true, as Dr. Wolf alleges, that "a training in logic means a training in the estimation of evidence." But where is the evidence that Formal Logic attempts such training? Where does it train its pupils to entertain hypotheses, to experiment in various directions, to concern themselves with doubts, to try all things and to hold fast to what is good? What has it to tell us about the delicate processes of weighing probabilities, alternatives and risks, which must precede every real act of thought? As Mr. Balfour has recently pointed out† (after Butler), the 'probable reasonings' of real life differ profoundly from the artificial probabilities of mathematics, and there is nothing in the logical text-books about them. The strict Formalist is trained only to fix his gaze exclusively on an impossible ideal of absolute proof, and taught to despise mere probabilities. He sinks in consequence into a sort of hypnotic torpor as regards practical reasoning. I am not concerned to dispute that logic might be made all that Dr. Wolf's fancy paints it; but I emphatically deny that it is anything of the sort at present.

§ 7. *The Educational Value of Formal Logic.*

My opinion as to the value of Logic 'as she is taught' may claim to spring from as much, and as varied, educational

* This fact has been particularly forced upon me by the proneness to invalid conversion of the logicians, who, in spite of all our protests, persist in accusing pragmatists of holding that whatever works is true, because they insist that whatever is true must work.

† See the reports of his Gifford Lectures.

experience as a teacher and as an examiner as Dr. Wolf possesses. And though one could not say that there is general agreement, in candid hours, among teachers, about the unsatisfactoriness of logic-teaching, I find that very many who are far from agreeing with me elsewhere, agree with me here. Dr. Wolf disagrees. *Soit*: but is not this a case where *major est vis instantiæ negativæ*? It appears to me that we teachers are bound to have a professional bias in favour of our subject, and cannot too carefully avoid the suspicion of giving ourselves unseemly testimonials on the value and efficiency of our own teaching: the people who should stand up and testify to the merits of our logic-teaching are our pupils and victims.

Until they do, I can only disagree with Dr. Wolf. I do not think that Formal Logic can be made a satisfactory subject by itself, at any rate if it is to be taught to *good* students. For so soon as any intelligent question is asked, the teacher is done: all he can honestly say is 'To answer that I should have to go outside logic into psychology, or metaphysics or history of philosophy, and we have no time for that.' Now such answers are bound to be unsatisfactory and discouraging, while the possibilities of such questioning are endless. I do not think therefore that logic is best taught by isolating it and cutting off its communications with its adjacent sciences: on the contrary, the only chance of rendering its study profitable lies in pointing out its connexions with the other sciences and with the problems of real life. But this is precisely what Formal Logic eschews. As for Dr. Wolf's charming idea that logic might be taught to the young before they have reached the awkward age at which they put good questions, it may be that Formal Logic would be irresistible in the kindergarten, but I doubt whether it would be interesting enough to be instructive.

Nor are my complaints anything new. Since writing *F. L.*, p. 387, I have found Whately lamenting as follows, nearly a century ago. "The truth is, that a very small

proportion, even of distinguished students, ever become proficient in Logic ; and that by far the greater part pass through the University without knowing anything at all of the subject. I do not mean that they have not learned by rote a string of technical terms ; but that they understand absolutely nothing whatever of the principles of the Science.”*

Finally I would remark that my *Formal Logic* is not intended to interfere with, or supersede, the elementary provision of logical *pabulum* by means of Jevons’s *Lessons*, plus a little daily-bread sauce supplied by the teacher, which still forms the *pièce de résistance* in the feast of reason in this country. Had I aimed so high (or low) I should have written one of those shilling shockers which are now so popular. I hope this declaration may allay some of the professional alarm I seem to have excited.

§ 8. *The Lacunæ in Dr. Wolf’s Case.*

I cannot conclude without asking myself where I stand after the explosion of Dr. Wolf’s squibs, and inquiring what the damage is. And, somewhat to my surprise, I find that I stand exactly where I did, and must confess that no damage has been done *to me*. The reason is manifest : Dr. Wolf’s defence of Formal Logic has been too superficial, and his attack on mine has left wholly untouched, and indeed unmentioned, all my most essential contentions. He has said nothing about such vital points as my conception of meaning and the impossibility of abstracting from it, as Formalism has, obscurely, tried to do ; nothing about my account of ambiguity, nothing about my examination of the Formal Laws of Thought, nothing about

* *Elements of Logic*, p. xviii. The Archbishop adds a spirited reply to those who censured him for criticizing Oxford, and concludes that “with all its defects, the University would stand higher in public estimation than it does, were the whole truth, in all points respecting it, more fully known.” I cordially agree, and would only add, ‘and likewise the whole truth respecting *other* institutions.’

my interpretation of the Syllogism, nothing about my conceptions of Induction and Causation. True, all these omissions concern points where logic attains philosophic importance, and it is tempting to correlate them with the similar *lacuna* in Dr. Wolf's conception of logic, which led him to ignore the more consciously philosophic accounts of the subject. I am convinced, however, that no good is done by attempting to slur over these vital issues; sooner or later they will have to be threshed out. I trust therefore that others will be found able and willing to take up the cudgels that have fallen from Dr. Wolf's hands, and to pick up the glove I have felt it my duty to fling down.

§ 9. *Appendix. Dr. Wolf's Criticism of Details.*

Although Dr. Wolf has (no doubt rightly from his standpoint) preferred for the most part to defend Formal Logic by general disquisitions to tackling the detailed objections with which my book is packed, he has (also rightly) felt that some criticism of details must be offered, and enumerated six cases, in his § 7, of what he calls my elementary misunderstandings of logic. These, however, turn out to be so trivial and perfunctory that I think it best to relegate them to an appendix, in which they may be disposed of briefly without encumbering the body of my paper.

(1) Dr. Wolf's first and most important objection refers to my protest against the inconsistency of Formalism in defining Judgment *both* as formally 'true' *and* as 'the true-or-false.' Now, I was of course well aware that these definitions arise in different contexts and are used for different purposes, and, when properly understood, both have an intelligible and defensible meaning. The definition of Judgment by the formal truth-claim of all judgments correctly describes the psychological fact that all *bona fide* judgments are believed to be true by their makers when they are made, and the verbal or grammatical fact that they claim to be true and not to be false.

Again the old Aristotelian definition of Judgment as that which is capable of being true-or-false describes, somewhat less adequately, what differentiates judgments from wishes, commands, questions, and possibly other incidents of our cognitive activity. (*F. L.*, p. 94 f.) But it is undeniable that verbally these two formulas are incongruous, and the verbalism of Formal Logic is much too extensive for it to despise verbal incongruities. And, what is even more deadly, if the Formalist were to defend himself by appealing to the different purposes and contexts of his two formulas, he would implicitly be admitting the relativity of definitions to purposes, and open the flood gates to the whole of the humanist criticism of his doctrines. None of this does Dr. Wolf appear to have understood, and his remarks, though fairly sound (except for his ambiguous use of the term 'proof'), are quite irrelevant to my contention. I may, however, refer him to Mr. Bradley as a logician who has even spoken of 'infallibility' in connexion with this formal truth-claim which means so little,* and can assure him that this sense predominates in modern epistemological controversies, where it gets hopelessly mixed up with 'absolute truth.'

(2) Dr. Wolf's second objection, besides quoting my contention so briefly as to make it unintelligible, seems to evince ignorance of the familiar 'Hegelian' doctrine of the intrinsic 'hierarchy of judgments.' Dr. Wolf may inhabit a zone of the philosophic chaos in which it is possible to disregard such entities, but I did not think myself entitled to ignore it, and contested it accordingly.

(3) The elementary points Dr. Wolf expounds under his third head are quite correctly and adequately stated by me, but by curtailing his quotation and slipping in a demand for "further information" he produces the semblance of a case, which a reference to the complete text at once dispels.

* Cf. *Mind*, No. 66, pp. 153 f., and my comments in No. 67, pp. 373-5.

(4) Dr. Wolf's fourth objection also contrives to omit the point of the passage attacked. It was simply an illustration of an important fact which logicians do not usually emphasize, viz., that the so-called 'logical necessity' does not amount to *psychological* necessity. In the next chapter (XIV, § 3) I proceeded to show that in point of fact the standpoint of Formal Logic demands a systematic confusion of these two senses, or rather an oscillation between psychological description and *ex post facto* 'reflection.' Of this confusion there is probably more than a trace in Dr. Wolf's assertion that logic "simply explains all the implications of *Every S is P* etc." For it certainly makes no attempt to determine all its *psychological* implications. At any rate Dr. Wolf here again is blind to the discrepancy between the facts of psychological necessitation and the interpretation put upon them by Formal Logic.

(5) Dr. Wolf's fifth objection might make a rationalistically minded angel weep.* It evinces such a total failure to grasp the meaning of the important criticism of the Formalist interpretation of the syllogism which Mr. Sidgwick has been expounding all these years. He actually supposes me to be merely illustrating an ambiguous middle! As if it mattered one jot whether this fatal flaw is called an 'ambiguous middle' or a 'fallacy of accident,'† or even whether or not my illustration of the principle involved was a good one. As a fact Dr. Wolf can pick holes in it only by misconstruing my example and making extensive alterations in its terms, which would be possible only *after* the conclusion deduced from the premisses had actually been refuted by the course of events. And this is, in the first place, not 'playing the game' of Formal Logic, because it demands extra-logical information which the logician as such has not got, and in the second, exemplifies the curious confusion whereby logicians are so often impelled to offer an *ex post*

* If there is such a creature!

† As I pointed out in my footnote.

facto re-statement of an argument as the correct analysis of the actual process of thought.

(6) Dr. Wolf's sixth objection, though it comes to very little and is quite irrelevant to the passages it incriminates,* raises a question which I cannot discuss here. It turns on the question whether Formal Logic should or should not regard the syllogism as the sole form of 'valid proof.' I am aware of course that on this point the Formalists are seriously divided, but, as an impartial observer, I can see no reason for disallowing the contention of the straiter sect that if we allow verbal manipulation and disregard literary style, all reasonings can be translated into syllogistic form, that no reasoning is 'valid' until this has been done, and that the cogency of the alleged non-syllogistic forms depends on familiar 'material' knowledge, and is not really a case of 'formal validity.' Of course I should be willing also to grant that these contentions amount in fact to a *reductio ad absurdum* of 'formal validity,' and indeed that is what I was engaged in showing in the passages Dr. Wolf contested.

(7) Finally I may refer to a criticism Dr. Wolf makes in § 6. He objects to my illustrating the relativity of 'truth' to purpose [by pointing out that even in the 'exact' sciences a value is taken as 'true' if it is 'true enough' for the purpose in hand. And he imagines himself to have disposed of this contention by pointing out that the mathematician "can say and say truly that the value of π is 3.1 to one decimal place, 3.14 to two decimal places, and so forth." Of course he can; but has Dr. Wolf ever asked himself what the mathematician *means* by such phrases? If he has not, I will venture to suggest to him that the meaning, when it is fully expanded, is this:— ' π , being the symbol for the ratio between two incommensurable quantities, cannot be stated with absolute exactness. But

* I, too, state that arguments like ' $A = B, B = C, \therefore A = C$, are not strictly syllogisms, though I show that they are open to the same objections.

short of that, it can be determined with any degree of accuracy required for any purpose. When, therefore, we say "its value to two places of decimals is 3·14" we mean that if your purpose does not demand any higher degree of accuracy you may safely take it as 3·14, and will be just as right as if you had taken it as 3·1416.' In short the "correct" value depends on the purposes, and the correct values do not exclude one another, but co-exist. Q.E.D.

VIII.—THE PSYCHOLOGY OF DISSOCIATED PERSONALITY.

By W. LESLIE MACKENZIE.

1. *Data for Discussion of Dissociation.*

SINCE Dr. Pierre Janet, in his *Automatisme Psychologique*, illustrated for us the formation of artificial personalities and showed how they are related to a whole world of minor dissociations the study of disintegrated personality has gone rapidly forward. Drs. Janet and Raymond showed how closely allied are the phenomena of multiple personality to the neuroses and psycho-neuroses,—hysterical contractures, automatic movements, obsessions and phobias of every variety. Binet, in his study of dual personality, made us familiar with similar cases. But in the cases described by Janet and Binet alike, the analysis was largely conducted by familiar hypnotic processes. In the case of Sally Beauchamp, hypnotism doubtless played a part in the restoration, but the clinical observations were elaborated in such a way as to raise more points of theory than the case was capable of determining. In "Observations on the Case of Sally Beauchamp,"* I have, however, given reasons for not accepting the view that "Sally Beauchamp" is to be regarded as a crucial case any more than the cases recorded in the many studies by Janet and others. As I indicated in that discussion, I cannot help feeling that, while the analysis of the particular case is masterly and presents innumerable major and minor problems, it would be more profitable, on the present occasion, to discuss certain general ideas involved not in the Beauchamp case alone but in many other analyses. Recently, too, we have been made more familiar with the methods of Drs. Breuer,

* *Mind*, Vol. XIX, N.S., No. 73.

Freud and Jung in their extended applications of psycho-analysis to the same types of case as were formerly studied mainly by hypnotic analysis. By psycho-analysis we are kept nearer to the normal methods of psychology, and as the method has now been extensively applied to dreams as well as to forms of hysteria, phobias and other abnormal states, we are better enabled to correlate the phenomena of dissociated personality with the minor dissociations of everyday life. This is a great gain in method; for as we all dream, and dream more or less constantly, we are from day to day furnished with masses of fresh material suitable for analysis. This, perhaps, detracts somewhat from the swift-moving romance of the Beauchamp group; but it enables the ordinary observer to maintain a critical attitude in the face of provisionally insoluble cases.

2. *Motive for Discussion.*

As the present purpose is not description but discussion, I shall try to confine myself to terms and doctrines where "criticism of categories" ought to be of service. It may, I suppose, be assumed that a good deal of the fascination of those studies of multiple personality springs from a pragmatic motive not always openly professed, namely, the wish to attain to a clear logic of immortality. Quite apart from such an ultimate interest, the study of morbid mentalisation holds its own as among the most fascinating of scientific and practical occupations, and it will continue to do so; for there is no department of life where one person depends more upon another for the offices of intelligent sympathy and exhaustive confession. But the deeper pragmatic motive is there all the same. And Dr. McDougall, in his frank expression of it, is only one man saying what many think. But the "wish to believe" is only a reason for greater scepticism and, if we are to make any inferences of permanent value from the study of multiple personality, we have still a long road to travel; the time has not come for any but provisional theories.

3. *The Meaning of Dissociation.*

I have kept to the term dissociation simply because it was used by Dr. Morton Prince in his classical description. Possibly it is not the best term; possibly there are other terms more exact. It implies, no doubt, some form of "associationism," and we are all familiar with the triumphant discredit thrown, within the last thirty years, on everything that goes under that name. Perhaps the triumph is premature. It is certain that, in the text-books of psychology both of this country and of other countries, association by similarity and association by contiguity are as familiar and as frequently used as they were forty years ago. Possibly the meaning of this is not that the psychologists respect associationism more, but a metaphysical "unity of consciousness" less. No psychologist now, as in the days of Hamilton, would suggest, without qualification, that the simplicity or unity of the mind is a crucial point in favour of the separability of the mental substance from the material substance. And whatever criticism be relevant of the precise formulation of the laws of association, these laws are as important in psychology as they ever were. I am familiar, too, with the objection to psychological "atomism"; but, in view of the more recent theories of matter, the phrase sounds a little out of date. Whether we look on the process of mental growth as a differentiation of a continuum along special lines ending in sensation, perception and the rest, or think of it as an organised body of reactions manifested through a highly integrated nervous system, or, for the purpose of analysis, a body of relatively isolable sensations, emotions, memories, etc., one presupposition is always present, namely, that under the guise of Bergson's "*élan vital*," or Bain's "spontaneity," or Stout's "conation," or Schopenhauer's "will," the whole manifest dream of life is, like the ship in *The Ancient Mariner*, "moved onward from beneath." "Psychological atomism" applied to association by similarity

or contiguity or even to the later epistemological associationists has always seemed to me an uncritical form of words and might now, without any loss, be dropped out of the scientific vocabulary.

If the word disaggregation or disintegration please better, there is nothing lost by discarding dissociation. The primary point is that the facts to be expressed by it can be experimentally verified and analytically described. May I add that so far as I have been able to follow the work of the experimental psychologists, it has tended, both in method and in results, rather to confirm than to discredit the "actionistic" association psychology as developed by Bain.

But to justify the term dissociation we may say that, in the formation of a split personality, what is gathered laboriously in the process of experience under the guidance of the primary laws of association (contiguity and similarity) is, under some form of stress, broken up again and scattered into functionally separate groups. If the integrative process is legitimately called association, the disintegrative is legitimately called dissociation. But as, biologically, the processes of anabolism and katabolism presuppose a continuously living and developing organism, so the processes of association and dissociation presuppose a psycho-physical organism continuously active in acquiring and registering experience. I emphasise the active or conative side simply to meet the criticism that association of "atomistic" mental elements is merely a passive process. I picture it rather as the mode of organisation followed by a psycho-physical organism in the course of its growth, adjustment, and perpetual readjustment to environment.

That this is a legitimate working view of association is shown by the fact that, by the method of "free association," experiences long forgotten can be readily recalled, that in the treatment of hysteria and other psycho-neuroses, accidental associations play an enormous part, that the method of the stimulus word for discovering and releasing "buried complexes"

and relating them to current consciousness is one of the most successful methods yet invented. To those that are hypercritical about psychological "atomism," it may be left to explain why so many floating fragments of sensation, or emotion, have, in the first instance, been lost, and now, frequently to the surprise of the individuals themselves, can be brought back to the upper levels of consciousness.

4. *Personality.*

This is one of the most difficult and disputable terms in psychology. I cannot profess to give it a definite meaning. I am content to leave this to Professor Alexander, who, in his article on "Self as Subject and as Person," has provided the term with a working content. All I am concerned with is that, for this discussion, we must think of the person as a physical organisation, a "double-faced unity," who can be seen and heard and spoken to, who can feel and act and remember, who can grow tired and sleep and dream. In psycho-analysis we may, indeed, for all we know, be dealing with "discarnate intelligence" (I assume that some meaning can be given to the term); but, practically, if there is no body to speak to, there is nobody to speak to. And I am not sure that theory has yet got a step beyond practice. Whether "discarnate intelligence" is a necessary hypothesis is a matter for argument.

If I am asking too much in suggesting that, for the full study of dissociation, we must push our investigations as far as they will go along the mental series, and at the same time keep account of the physical series, I invite the critical psychologists to say what other course is open. In all my reading I have come across nothing (let Sally Beauchamp be left out of account for the moment) that will justify me in saying that, for psychological purposes, the physical, in its infinite complexity of structure and action, is to be looked on as a secondary, the psychical to be looked on as primary. In this, I am aware that I may be setting aside the main contention of

Dr. McDougall's new argument for animism, but as I have not yet been persuaded of the truth of his doctrine, I must leave the question open. So far as I grasp it, I prefer the mode of expression used by Dr. Bosanquet in his *Principle of Individuality and Value* (pp. 160—220); the physical and psychical constitute a single system, which, of course, negatives interactionism. "Mind, so far as it can be in space, is nervous system; nervous system, focussed in the *nisus* towards unity, which a standing miracle associates with it, is finite mind. You cannot say that the one acts and not the other. There is nothing—no part nor point—in the one that is not in the other" (*op. cit.*, p. 219).

But the type of personality involved in these studies may be less complete than is necessary for normal psychology. This is a point for critical argument. Every individual springs from a combination of two germ-plasms. Do we understand anything at all as to the moment when the "person" begins to be? If, as in some species of the animal world, it is possible to generate an individual, at least up to the fourth division, from a single germ-plasm, would the term "person" have its normal significance if applied to a human being generated in the same way? I put the question because doubt has been thrown over the view that if one half of one person's brain could be perfectly united with the other half of another person's brain, the result might be a "unity of consciousness" capable of serving the ends of personality as if it were normal. Except in degree, there seems no greater mystery in such a result than in the substitution of one person's nerve or skin for another's. If nerve matter of one grade of complexity can be substituted for nerve matter of the same grade of complexity, the principle seems the same whether we deal with peripheral nerves or upper neurons. If the determinants of two persons' brains can unite in a perfect partnership at the moment of conception, surely the substituting of one person's left hemisphere for another would involve no greater mystery. This is mere speculation; but surely the

possibility of establishing a "unity of consciousness" by a combination of sections of brains is no more a matter for *a priori* denial than skin grafting, or union of Mendelian units of two germ-plasms.

For the present purpose, we may assume that the brain is made up of inter-related "constellations of neurons" (Sidis) and that the mechanism of inter-relation is such that a neuron or neuron-group may functionate more or less in isolation from others. When such functional isolation takes place, there is a corresponding alteration of the normal unity of consciousness, and the alteration may proceed to the point of a double personality.

5. *Mode of Formation of Double Personality.*

The multitude of recorded cases has made us familiar with the mode in which secondary personalities are formed. A common type is the dissociation that occurs after typhoid fever. I am not thinking of the early delirium, which is very common, particularly in young persons; I am thinking rather of the enfeeblement of intelligence in the first weeks of recovery. It is possible that the conditions then made manifest may start in the acute period; but, at any rate, a condition of persistent dissociation is very common. One case, a boy of 16, suffered severely from hunger owing to restricted diet, and had the delusion that he himself was sitting on his bed "out there." At every meal time of the other patients, he selected, in imagination, the diet that pleased him and his hunger was satisfied by the fact. He informed nurses and doctors that "Tommy sat out there." One day he announced "Tommy is himself again." The phrase he may well have heard before; but this time it had a very specific meaning. No doubt this was a form of autoscopic hallucination, where the patient's feelings were transferred to the projected image of himself. This occurs in dreams with infinite frequency. In this boy's case it occurred in his waking hours. In other cases, I have seen many varieties of hallucination or rather forms of persistent paranoia with definite hallucination. For instance,

one boy wished to show me a letter he had received from his mother, who (he imagined) lived in another city. He summoned me in the most confidential way, saying he wished to let me see his mother's letter, giving her address and many other circumstantial corroborations of actuality. He found, however, that he had mislaid the letter and proceeded to hunt for it under the pillow and all over the bed—fruitlessly, of course. The whole story was pure illusion. Possibly, if one had tackled the sequence in detail, one might have found points relating every element to some actual experience. But I merely note the cases as an illustration of a common occurrence. If any fright or nervous shock should occur when the nervous system is at this low tension, there is great danger of permanent dissociation. Among Janet's and Raymond's cases, a shock following on typhoid fever is frequently given as a starting point of hysterical attacks. Usually this convalescent dissociation and all the experiences of the period are absolutely forgotten. It is an evanescent imbecility, like the emergence from chloroform, but more prolonged.

What happens in these typical cases happens in a thousand varieties in other relationships. Somnambulism, in one degree or another, is extremely common. What persisted in B. I of the Beauchamp group for several years may persist in almost anybody for periods varying from seconds to hours. But somnambulism is an extreme form of dissociation. The same fundamental process is involved whenever a person drops asleep, or dreams, or wakens by degrees through a short twilight of consciousness. Infinitely fine shades of dissociation are experimentally verifiable in all these conditions. You read a book to put you to sleep. For a time the attention is acute, the words are clear, the logic of what is written is obvious and easily apprehended. But after a few minutes a word is misread or mistaken for some other, another word comes over it, or streams of print come apparently from nowhere to confuse the page in your hand, or some voice in your ears suggests

a different phrase, or the print grows indistinct and dances off into other images, or the world of visual perception goes all to pieces in some other way. Meanwhile the hand holds the book rigidly upright and adjusted to the light; but, in a little, the muscles relax, the book falls to the ground and, if you have not already extinguished the candle, you will find it burning when you awake again. It is easy to trace experimentally the perfect continuity between the stability of the object word and the flowing dissociations of the dream. Whatever be the physical basis of these changes, it is clear that the content of consciousness scatters into fragments. All these may be followed into sequences of association involving words and images in every variety of coherence or incoherence. Sometimes the process of dissociation is too rapid to make observation of sequences possible. But, if you suffer from *tinnitus oculorum*, a common enough condition in states of low tension (*e.g.*, anæmia or fatigue), you can lie passive, watching processes and activities of endless variety and form, sometimes repeating conscious experience, at other times developing along apparently new lines of experience. Here I do not refer to the conscious effort of visualisation, but merely to the illimitably numerous streams of images that move across the eye in the dark. These images are, of course, a form of hallucination; but the hallucination is so common that it is practically normal. The hallucinations emerge into dream images on the one hand, or into conscious volitional visualisation on the other. But the disintegration of visual sequences is very obvious.

Between the utterance of a word in sleep and developed somnambulism there is a great distance; but it could be filled without any discontinuity. Sleep-talking and sleep-walking are things different in degree, not in kind. But usually such conditions are too evanescent to generate secondary selves. Given, however, conditions of exhaustion, such as typhoid, or extreme fatigue, or the conditions resulting from severe shock,

or from severe emotional stress, the nervous system may undergo some functional disintegration; there may occur blanks of memory, or persistent anxieties, or obsessions of ideas or feelings, or, in extreme cases, paralysis of parts of the body, or anæsthesias, or terrors in action, or extreme excitements of emotion, or any one of the mental conditions gathered under the name of neurosis or hysteria. In the detail of these conditions there are many interesting differences; but it is possible to trace in them all some disintegration of the stable object-world registered in organised experience. In the mass of those cases, however, the dissociation is purely functional; it is a disturbance of function, not a destruction of structure; it is, therefore, frequently restorable to the normal, a thing that can never happen when the structure is destroyed.

But the same phenomenon of dissociation is as easily traceable among the confirmed insanities. Here, for instance, is a man who, for 20 years, has refused to answer a direct question. When asked why, he shakes his head and makes a sign with the hand to indicate that his mouth has been shut by some outside compulsion. It is not that he cannot speak, or that he is unintelligent; it is, as was discovered long ago, that he imagines himself under the hypnotic influence of a doctor, who controls him through the telephone. On learning this, I asked him to request the doctor to give him permission to speak to me. He at once did the actions necessary to ring up the imaginary doctor on the imaginary telephone; he spoke in a loud and sufficient voice, the request to be permitted to speak; low sounds, as of a voice coming through the telephone, were then uttered by his own lips, obviously quite outside his consciousness. The low-sounding words were that permission could not be given, or words to that effect. He then smiled helplessly, shook his head and once more signalled that his lips were closed down. Here obviously there was a whole organised world of hallucinations qualifying

the ordinary object-world in every detail, yet not inconsistent with it. The animal part of the man's life goes on in the normal way; he eats, works, and sleeps; he is to himself, doubtless, a sufficient person; he has consciousness, will, intellect, desires, capacity for action and emotion; but he is, as it were, living in a dream of unbroken stability. Cases like these are to be reckoned by tens of thousands; but even in the shortest and most casual observation of such cases, it is easy to find traces of normal mental activity, and, after years of observation, as Jung has shown in dementia præcox, it would be possible to trace back many, if not all, the peculiarities to idea-systems that, for one cause or another, have been broken off from the main current of conscious life and are now manifesting their presence by these disturbances of consciousness. Of course, in the fixed delusional insanities, the analysis of personal history is, I should expect, too difficult ever to be exhaustively accomplished, even if structural nervous changes have not already foreclosed or restricted the inquiry; but in dementia præcox Jung has shown that the application of the word-association test reveals "repressed complexes," which, once brought to the surface, form part of the flowing pattern of ordinary consciousness.

But we need not go to the dream world, or the hysteric world, or the insane world for illustrations of dissociation. Every moment of every waking day offers its illustration; it may be the forgetting of a name or an engagement, or the right answer to a question, or the right link in a problem solution, or a mispronunciation, or a twirling of the fingers round a button, or a flushing of the face, or an unexplained tremor of the knees, or a tear without meaning, or any of the million petty experiences that constitute a personal "atmosphere."

6. *The Unity of Consciousness.*

So far we are on common ground. I have used indiscriminately psychological or neurological terms; because, for our purpose, it is indifferent which we use. I might have described some of the facts in terms of the nervous physiology of the sensory and motor centres. In hysteria, for example, it is possible to trace different anæsthetic areas that can be referred with more or less correctness to particular parts of the cerebrum, or contractures or movements that could be assigned to motor centres. It would, too, be speculatively possible to suggest lines of cleavage and lines of blockage between one group of neurons and another until a whole nervous geography could be formed of the most complex case. How subtle the diagnosis of nervous alterations can be is illustrated by a case recorded by Dr. Alexander Bruce, who, after a careful study of a special form of paralysis, concluded that the condition was due to a small clot of blood in the intermedio-lateral tract of the spinal cord at about the level of the eighth or ninth dorsal vertebra. When the man died and Dr. Bruce made sections of the cord in that region, he discovered the clot. This delicacy of diagnosis was involved even in a gross lesion such as a pin-head clot of blood may produce. It is nothing to the infinite delicacy of discrimination necessary even to frame a picture of what happens when a syllable of a word, as in one of Janet's cases, always produced a convulsion, with unconsciousness. It would be possible to multiply by scores the subtle changes possible by slight variations in temperature, or suggestion, or blood pressure, or toxic absorption, or fatigue. It would be possible to render them all in terms of nerve function and to indicate the limitless possibilities of inter-relation between different groups of neurons on higher and lower planes.

This is all admitted. How shall we reconcile the admitted facts with any theory of the unity of consciousness? Let us assume that every neuron group, to go no further down, may have its

functional isolated life with its associated system of experiences (whether we call these ideas or merely nervous traces or dispositions). Let us assume that a minority of the neuron groups are capable of carrying on the daily life of the organism. However small may be the neuron group, is it not the case that, always and invariably, even at the moment of fainting, the person subjectively feels himself a "sufficient person"? Within seconds of death by bleeding a patient has asked me, "Am I dying?" So far as one could infer, the whole content of consciousness was reduced to the lowest limit of interest in self; a second later, the eyes were closed never to reopen. If this is unity of consciousness, what meaning are we to assign to the vast fields forgotten in that moment of limited concentration? What meaning are we to assign to such unity itself?

The same question arises in every conscious moment; and every philosopher has tried to answer it. The content of the category seems to have varied from a sort of "substance" to a purely logical abstraction, from a nuclear "soul" to a mere point of view. Where opinions already differ so widely, another opinion is not necessary to emphasise the divergence of ideas. But if any kind of unity of consciousness in the sense employed, for example, in Hamilton's *Metaphysics*, or in the sentence quoted by Dr. McDougall (*Body and Mind*) from Lotze, it must be a unity capable either of explaining all the facts of dissociation indicated in the summary I have given or of showing that these alleged facts are merely misconstructions of reality. If the unity of consciousness present in Miss Beauchamp was different from the unity of consciousness present in B. IV and if those two unities were different from the unity of "Sally," and if all these unities and some others were manifested in a single nervous system, by what title shall we say that the unity of consciousness now possessed by the Real Miss Beauchamp has any greater claim on our reverence, or any higher status in the world of mind, or any greater power of proving the unity of some "immaterial substance" than the more evanescent unities flowing from the

former dissociations? That those unities of consciousness differed in content was obvious; but they were unities while they lasted, even when they lasted only for seconds. Now that they have ceased to persist separately and are absorbed in the relative "absolute" of the reconstituted personality, what meaning are we to leave with the term "unity" which at one stage correctly described them? In a word, does the category "unity of consciousness" help us in any degree to describe such facts as the dissociation of consciousness reveals? Can we be satisfied with using the term simply as a provisional starting point for observation?

What are the minimum conditions of a "unity of consciousness"? Consciousness, if it is to serve as a personality in any sense worth the name, must be at least a self-consciousness. The extract from Münsterberg (see below) is a general formula for the genesis of self-subsistent personalities. The minimum person, obviously, must have a minimum of memory and a power of recognition (Höfding). These conditions were revealed in Janet's "Lucie" series and in others. In the various strata of hypnotic sleep, the Lucie self could remember and recognise her memories as belonging to the particular stratum. Further, another of her selves knew the experiences of the first self, although the first self knew nothing of the second self. Amnesia was present only in one direction. This phenomenon appeared also in the case of Sally relatively to some of the other selves. In the selves hypnotically produced or revealed, the facts are not so striking as in the spontaneous disintegrations of the Beauchamp group; but, fundamentally, I can see no difference between the two examples of dissociation. (See also below, case from Sidis). Dr. Morton Prince points out* that "amnesia is in no way an essential part of disintegrated personality. Sally, indeed, was without amnesia, if we limit our tests to the facts of conduct and external life and do not include those of the

* *Dissociation of a Personality*, p. 236.

intellectual processes." But these are somewhat important qualifications. If Sally sustained a perfect conscious memory for all her experiences—and there is a good deal of evidence to the contrary—she certainly differed from all forms of personality known to us, normal or abnormal. But this is a very large assumption, and the analysis, so far as I can discover, contains no real grounds for it. If the "association" tests had been applied, and to a certain extent they were, probably facts forgotten by Sally might have been unveiled, but they would not have appeared to her as facts forgotten; they would have been assigned to the other personalities.

This shows how difficult it is to find any fixed landmarks among those fading margins. In the common forms of dissociation, however, in the hysterias or other neuroses, memory blanks are a striking feature. But whatever the function of amnesia in the different varieties of disintegrated personality, each system-group constituting a personality has a memory of its own experience. In the Beauchamp group "all the personalities have extraordinarily accurate memories for their own respective lives."* Of course, in this group the experiences remembered by the one personality are largely, if not entirely, those forgotten by the other. The very accurate memories, therefore, may be parallel to the cases described by Binet or Janet, where facts apparently forgotten are shown, by automatic writing or abstraction, to be completely remembered. One difficulty, of course, is that, apparently, in the Beauchamp group, such revelations of continuous memory were made more or less spontaneously. But that the experiences between the personalities were more or less interchangeable is shown by the fact that, by the process of "mind-fixing"† B. IV was able to recall some of the experiences of B. I and by the "vision" method "she

* *Op. cit.*, p. 238.

† *Op. cit.*, p. 261.

occasionally got at Sally's experiences,"* which were not recoverable by the method of abstraction.

The subject of amnesia and the part it plays in the initiation of disintegrated personality would require a discussion to itself. The term is, of course, relative to the personal consciousness in the ascendant at the time. It is only one factor in the beginning of a new personality, which personality may never be revealed until by accident or design it is systematically evoked. Doubtless, amnesias in every variety are parts of us all; but they are only a name for complexes that have dropped from the conscious to the unconscious level and, when the proper day comes, they may emerge again into activity. (The Freud view seems to imply that, at least in the unstable minds, their activity never ceases even in the unconscious.) Innumerable facts of observation and experiment raise the question whether there is in the strict sense any amnesia, whether any experience can be wholly forgotten, whether there is any group of apparently forgotten ideas that, given the appropriate process, cannot be revealed.

One point, however, it is important to note; each of the Beauchamp personalities (one as much as the other) and all the others I have read of, make use of the whole body and its organs. They each use the body differently, it is true; but the general organic basis seems to be common property. The dissociation always seems to presuppose a heart that will go on beating and maintaining the blood pressure necessary for conscious life. This fact, not to speak of the organic sensations generally, seems to be a necessary presupposition of any kind of conscious unity whatever. This implies that "unity" in the contents of consciousness may be a shifting quantity; "unity" of consciousness without content is simply a logical standpoint. Is there any need to assume a minimum inexpugnable "core" of personality that never "goes out"?

* *Op. cit.*, p. 264.

What is the value of the assumption? If, as is plain, a point comes when personality does "vanish," as under chloroform or ether, what is the value of the core when there is no content of consciousness at all? Are we not reduced to saying that the mental phenomena resume normality when the physical organism is restored to its normal?

7. *Consciousness, Co-consciousness, and Sub-consciousness.*

The meaning assigned to these three terms has a certain bearing on the study of multiple personality. But it seems to me that the disputes are largely verbal. In his *Automatisme Psychologique* Janet certainly made clear that the actions in crises of hysteria and other forms of partially disintegrated personality fulfilled the same conditions of coherence as the mental activities of the waking life, although the form of expression was different. He did an immense service in driving home the fact that the same subtlety of "consciousness" (in some real sense) could be manifested in states of trance as in ordinary waking consciousness. For instance, we enter a ward at the Salpêtrière and discover a young woman sitting on a chair; she has risen out of bed some time ago. Her eyes, wide open, with widely dilated pupils, show no consciousness whatever of her surroundings. She sits rigid; her arm stays in any position it is put in; she is obviously in a state of complete catalepsy. Dr. Janet, after learning from the attendant how long she has been seated there, gently strokes her eyebrows, closes her eyes, murmurs a few words to her, and in a few seconds there is an obvious transformation in the whole aspect of face and body. In a few seconds tears fill the eyes, the arms move voluntarily as if unfrozen, the face grows pale and flushes, and the patient talks quite normally. To say that the condition of "unconsciousness" was not mental because the patient knew nothing of it and remembers nothing, although, from the operator's point of view, the condition is shown to be continuous with the waking

life, is surely either to restrict too much the meaning of the word mental or to allow too little to the organising capacity of the nervous system. If by speaking the right word we can open the door of "unconsciousness," it is surely because the person imprisoned in the frozen body has understanding and hears. Or are we to suppose that the delicately intricate *physical* stimulus the word has for the fine mechanism of the ear and its prepared paths to the cerebrum, is enough to alter the mutual inhibitions of the cerebral centres or convert them once more into a conscious mechanism? The word must have the compound effect, at once physical and psychical; but, if the physical sequence is continuous, is the psychical at any point discontinuous? At what point in the transit from the trance to the waking state are we to name the phenomena "conscious"?

Dr. Münsterberg, after a full discussion of the positions, declares uncompromisingly for physiology :

"The somnambulist, for instance, may get up at night and write a letter, then go to bed again and not know anything of the event when he awakes in the morning. We have no reason to claim that he had no knowledge of the letter in his consciousness when he wrote it. It is exactly the same consciousness from a psychological standpoint as the one with which he wakes up. Only that special content has in an abnormal way entirely disappeared, has not left a possibility of awakening a memory image, and the action of the personality in writing has thus become separated and cut off from the connected experiences of the man. But while the connected episode may be entirely forgotten, it was not less in consciousness for the time being, than if a normal man should leave his bed hastily to write a letter. Moreover, under abnormal conditions, as for instance in severe hysteric cases, those dissociated contents may form large clusters of mental experiences in the midst of which a new idea of the own personality may develop. Considering that through such

disconnection many channels of discharge are blocked, while others are abnormally opened, it seems only natural that the idea of the own acting personality becomes greatly changed. Thus we have in such an episode a new second personality which may be strikingly different in its behaviour and in its power, in its memories and in its desires, from the continuous normal one, and this secondary personality may now develop its own continuity and may arise under special conditions in attacks which are connected among one another by their own memory bonds."*

He submits that all the facts are covered by the terms consciousness and co-consciousness. He disallows sub-consciousness except when it is used in the sense of marginal consciousness or co-consciousness. All that is commonly assigned to sub-consciousness is, he maintains, perfectly accounted for by assuming only the physiological condition of the nervous system. The nervous system is thus a store of dispositions and traces. In a case where a hysterical patient engages in conversation while her hand begins to write automatically without her knowing it, Münsterberg suggests that "various interpretations are possible. Indeed, we might think that by such double setting in the pathological brain, two independent groups in the content of consciousness are formed, each one fully in consciousness and yet both without any mutual influence and thus without mutual knowledge. In the light of such interpretation, it has been correctly proposed to speak of co-conscious processes, rather than sub-conscious. Or we may interpret it more in harmony with the ordinary automatic writing or with other merely physiological reactions. Then we should suppose that as soon as the conversation sets in, the brain centres which control the writing movement work through channels in which no mental factors are involved. One of the two characteristic reaction systems would then be

* *Psycho-therapy*, p. 153.

merely physiological. We saw before that the complexity of the process is no argument against the strictly physiological character of the event. That various activities can co-exist in such a way that one of them may at any time slide down from the conscious centres to the merely physiological ones, we all know by daily experience. We may go home through the streets of the busy town engaged with our thoughts. For a while the idea of our way and of the sidewalk is in our consciousness, when suddenly we reach our house and notice that for a long while we have no longer had any thought at all of the way. We were absorbed by our problems, and the motor activity of walking towards our goal was going on actively in the physiological sphere. But whether we prefer the physiological account or insist on the co-conscious phenomena, in either case is there any chance for the sub-conscious to slip in? That a content of consciousness is to a high degree dissociated or that the idea of the personality is split off is certainly a symptom of pathological disturbance, but it has nothing to do with the constituting of two different kinds of consciousness or with breaking the continuous sameness of consciousness itself. The most exceptional and most uncanny occurrences of the hospital teach, after all, the same which our daily experience ought to teach us: there is no sub-consciousness.”*

Although, however, much of the discussion is verbal, there is probably a real difference between the point of view expressed by co-consciousness and the point of view expressed by sub-consciousness or unconsciousness. As has been shown in the case of the Beauchamp group, there are good reasons for supposing that the same object-world may be passing at the same moment into two different systems of mind within the same brain, both using the “common paths” (Sherrington) of eye, ear and other senses and the same paths of expression—speech. The same materials will be organised in corresponding

* *Op cit.*, p. 157.

but different systems according to the apperceptions of the two minds. One consciousness may be in the ascendant to-day, the other to-morrow; but they have both acquired their experience in the normal way of sense perception. This is one hypothesis and is fairly named a process of co-conscious experience. "Sub-consciousness" sometimes implies another hypothesis. It is sometimes used to cover the view that past experience, even the experience of earliest childhood, may, long after it is forgotten and done with, persist below the threshold of consciousness and continue to operate as a dissociated system of ideas, cut off, but not irrecoverably, from the stream of current consciousness. Dreams are one of the ways through which these isolated complexes can be recovered from the sub-consciousness.

It seems to me that the difference between the terms is greater than the difference in the facts as described by the different observers. Morton Prince and Münsterberg prefer the term co-conscious; Freud most commonly uses the term unconscious and expresses himself as a rule in purely psychological terms; but I can perceive no radical inconsistency in the facts as described by any one of the three observers. Neither Münsterberg nor Prince would deny the existence of the type of fact described by Freud nor would Freud dispute Münsterberg's preference for the physiological embodiment, provided the subtlety of the facts as described psychologically is not tampered with or diminished. The difference is largely a difference of expression.

In an article on "Experiments to determine Co-conscious (Sub-conscious) Ideation," Dr. Morton Prince gives some further details of a group similar to the Beauchamp group. An effort is made to apply an experiment that will prove or disprove whether there is any real co-consciousness. The problem is stated as follows:—"B A is a case of multiple personality or which one personality may be designated as A and the other as B. Observations extending over many months have shown

that A has no knowledge of B, but B is completely aware of A, that is A has amnesia for the study of B, while B has no amnesia. B can be hypnotised and in hypnosis is known as little *b*. On awakening from hypnosis B has no recollection of little *b*. Now the important point for our present purposes is that B, both when awake and when in the hypnotic state as little *b*, claims to be sub-conscious (co-conscious) with A when that state is to the fore; she claims to have perceptions, feelings, and trains of thought distinct from and synchronous with the mental life of A; she describes them with precision and specification.

"Of all this claimed sub-conscious life, A has no knowledge. The question is, can B's (and little *b*'s) claim be verified even in part? She herself says:—'I *know* it is so,' but that is no proof for another person."*

In the first experiment, Dr. Prince talked to A, closed her eyes for a moment; during closure he hung a handkerchief on the back of a chair within the range of her peripheral vision. He then directed her to open her eyes, kept her attention in conversation for a few moments, so preventing her from looking in the direction of the handkerchief, and at the end of about half a minute made her close her eyes again. Then he surreptitiously removed the handkerchief. When she opened her eyes she was not able, on questioning, to indicate to anyone that she had seen the handkerchief. But when hypnotised the hypnotic state *b* immediately described what had been done.

This was done without any previous intimation to either of the personalities. The inference is that the co-consciousness was wide awake the whole time.

In a subsequent series of experiments, Dr. Prince set problems on such conditions that neither personality knew the problem in advance, and the waking personality knew nothing

* *Journal of Abnormal Psychology*, Vol. III, No. 1, p. 34.

of them even when they were set. Yet in every case, the co-consciousness solved the problem independently.

Dr. Prince infers that the arithmetical processes involved in the problems are much too complex to be explained by mere physiology without thought. The inference is that the co-consciousness is really an organised system of ideas, not a mere possibility of physiological reaction. But what is thus named "co-consciousness" is much the same in substance as what Janet would call "sub-consciousness" and, in any case, relatively to the waking personality is "unconsciousness."*

In the *Journal of Abnormal Psychology*, Vol. III, No. 4, p. 250, a case is recorded where the two personalities kept up correspondence, as also happened in the Beauchamp group. It was also alleged that, in the two personalities, there was co-consciousness of the same experiences. If these messages (writings) were necessary to inform the other personality, what was the value of the alleged co-consciousness? It is supposed to have "private audience" of A all the time, waking or sleeping. Yet writing is necessary to inform A. Why? Does this not suggest that the co-consciousness is mostly an illusion of separation, not a reality? It looks like the sort of thing you find when your arms are numb and seem to belong to another person, or when you wake out of deep sleep gradually and for a perceptible time imagine yourself some one else. The instantaneous experience of this difference may give the retrojected illusion of permanent co-consciousness. But certainly the need for writing, here as in "Sally," throws doubt on the power of insight on "inner lines."

A good deal has been made of the allegation, as in the case of Sally Beauchamp, that one personality may have a direct intuition of the subjective experiences of another. If this is really so, it ought to happen in the normal personality as well

* *Sub-conscious Phenomena*, by Münsterberg, Prince, Ribot, Janet, and others, *passim*.

as in the abnormal personality. My own impression is that such a claim is pure illusion and, where such a thing seems to happen, it is capable of another explanation.

In the case of Mary E. V.,* it is said that on one occasion "she remembered," during her abnormal state, "being at home last summer" (in her normal state). She "was so startled and puzzled by this sudden glimpse of her other life that she could not sleep at all during the night." Thus the memory experience of one state invades the other after having been excluded. Amnesia, therefore, admits of degrees. This girl, in one state, also assigned memories to the other personality. She even referred experiences to other persons outside. She "became" her friends.

8. *Mechanism of Dissociation—Sidis and Freud.*

Dr. Boris Sidis states that "The prerequisite of multiple consciousness is either a highly complex organisation or, what is more frequent, an unstable neural equilibrium." He also asserts that a state of unconsciousness or of low moment consciousness precedes the first manifestations of double or multiple personality.† In alternating personality one state does not directly emerge into the other. There is an intervening state of unconsciousness or deep sleep. The interval between the states tends to grow shorter. The transition state Sidis calls the hypnoleptic state, which is "a true attack." There is first drowsiness, then unconsciousness, the change of personality beginning in the drowsy state.

It is in the drowsy stage "that a true crisis of alternation begins. This forms the hypnoidic state when independent moments are emerging. Stimulation of these at this stage results in their resynthesis."‡ "To effect a synthesis we have

* Dr. Boris Sidis, *Multiple Personality*, p. 394.

† *Op. cit.*, p. 450.

‡ *Op. cit.*, p. 452.

to shorten the secondary stage and lengthen the primary stage of the hypnoleptic state.”*

So far, the only starting point indicated for disintegrations of personality is a severe shock (emotional or other) to the psycho-physical system. Case after case could be quoted as starting with some sudden shock or crisis, or piercing experience, always associated with more or less of unconsciousness (Sidis). But if the process of dissociation is a normal and constant process of mental growth, the shock method of production may account for the major dissociations, but is not enough to account for the minor. The process of forgetting a name needs no shock, nor does the persistence of many minor automatisms. It is, therefore, important to enquire whether there is any normal mechanism for the production of dissociations. Professor Sigmund Freud maintains that there is, and his theory of the neuroses and psycho-neuroses and dreams is based on this mechanism.

In the masses of material produced by Dr. Freud himself and the workers on his lines, it is somewhat difficult to find precise expressions of general principles. Figurative expressions like the “censor” are frequent; but it is only here and there that one comes to terms of scientific precision. But, so far as we can make the ideas precise, the Freud scheme of processes does seem to provide a provisional organic *motive* for the occurrence of dissociation both normal and abnormal. Dr. William Brown, in his *Freud's Theory of the Unconscious*, succeeds in presenting a coherent statement of Freud's general doctrines, and in relating them to the speculations of other psychologists; but, even with the assistance of this careful analysis, it is difficult to condense Freud's theories into a sentence or two. It is, however, important that those theories should be stated; for the practice of psycho-analysis based on them is certainly yielding everywhere wonderful results.

* *Op. cit.*, p. 455.

According to Freud, the psychic life of the unconscious is as active as the conscious psychic life and is of infinitely more importance. Here at a bound we are landed in the confusions incident to the discussions based on consciousness, co-consciousness, sub-consciousness and the unconscious. These it is unnecessary further to discuss. We can only try to delimit what Freud means in fact, apart from terms. He writes: "A reaction from the over-estimation of the quality of consciousness becomes the indispensable preliminary condition for any correct insight into the behaviour of the psychic. In the words of Lipps, the unconscious must be accepted as the general basis of the psychic life. The unconscious is the larger circle which includes within itself the smaller circle of the conscious; everything conscious has its preliminary step in the unconscious, whereas the unconscious may stop with this step and still claim full value as a psychic activity. Properly speaking, the unconscious is the real psychic; its inner nature is just as unknown to us as the reality of the external world, and it is just as imperfectly reported to us through the data of consciousness as is the external world through the indications of our sensory organs."*

On this general assumption, let us consider the case of a simple dream. In the young child some dreams are obviously the fulfilment of wishes conceived during the waking life, but repressed at the moment. Freud maintains that all dreams are fundamentally of this character, and the interpretation of the dream consists in discovering what the wish in the dream is and by what complication of hallucinations it is expressed or masked. By the restraints and inhibitions generated in the social life and in the self-preserving evolution of the individual mind, multitudes of passing wishes must be repressed. The repression results in amnesia, which, as we have seen already, may be only another name for storage of memories away from current

* *Interpretation of Dreams* (Brill's trans.), p. 486.

consciousness. The processes of restraint and inhibition maintain their hold on the mind to a certain extent even in sleep. As, however, the mind is as active in the unconsciousness of sleep as during the waking hours, while the "threshold values" of the neuronal systems are lowered (let this be assumed for the moment), the latent dream thoughts express themselves differently from waking thoughts. Freed from the restraint due to the pressure of the world of external perception, superficial associations have greater play and the process of re-association has an unlimited field. It is then that the unconscious seems most easily awakened and the awakening occurs always from some stimulant suggestion of the experience of the last period of ordinary waking consciousness. When this experience has any association or affinity with psychic elements stored in the unconscious, the result is an effort by those elements to struggle into the perceptual level of consciousness. This they do in the form of the dream hallucinations, made up, as indicated, of re-assorted superficial associations of contiguity or similarity in every variety. But that such a hallucination should be possible it must be assumed that elements of the dream thought undergo a process of "regression," ending in "the raw material of sensation," which is the substance of the hallucinations. According to Freud, this process is essential; for the dream thoughts are kept down by the "censor," which is a general term for the restraints and inhibitions referred to above. To escape the "censor," the dream thoughts regress into the "raw material of sensation," which thus has in every case a real symbolic significance and is not a phantasmagoria of unrelated after-images or memories or fragments.

The process by which these results are come at Freud names—*condensation*, by which the dream thoughts are foreshortened, and decreased in number; *displacement*, by which the elements of the manifest content of the dream may be re-assorted; *dramatisation*, which is another name for the regression into the hallucination form. These are the processes of the "dream-

work" and the problem of dream-analysis is to work backwards to the latent ideas that generate the sequences of images.

As, according to Freud, there is no discontinuity of experience from the earliest experience of the individual to the latest, he assigns great value to the forgotten experiences of early infancy. These experiences, he maintains, live on in many forms and are manifested in dreams. "What once ruled in the waking state when the psychic life was still young and unfit seems to have been banished into the sleeping state, just as we see again in the nursery the bow and arrow, the discarded primitive weapons of grown-up humanity. *The dream is a fragment of the abandoned psychic life of the child.* In the psychoses these modes of operation of the psychic apparatus, which are normally suppressed in the waking state, re-assert themselves, and then betray their inability to satisfy our wants in the outer world."*

What is thus generally true of dreams is true, with the necessary changes, of the hysterias, obsessions, phobias and fixed ideas generally. Freud suggests a schema of mental mechanisms to correlate all these phenomena; but the schema is merely a provisional attempt to formulate what looks so like "a measure of shifting sand." Roughly, the sequence of the schema is—perception (without memory capacity), then a series of memory systems, next the unconscious, next the pre-conscious, finally the motor expression in consciousness. By this system, consciousness is, as it were, but a glowing point where the vast world of remembered and stored experiences have to adjust themselves to the needs of the immediate life of action.

As indicated earlier in this paper, this theory of the unconscious has much to say for itself. The processes of psycho-analysis by free association and word stimulus are, to a certain extent, verifications of the theory. There are obvious points in common between psycho-analysis, some grades

* *Op. cit.*, p. 447.

of hypnotism, the process of hypnoidisation (Sidis) and the normal process of abstraction or reverie. Psycho-analysis is a method of undoing harmful dissociations of consciousness. These, otherwise named dormant complexes, or perhaps, from the Freud point of view, active buried complexes (anxieties, disturbing obsessions, phobias and the like), all disappear when the buried mental complexes are thus set free to join the current consciousness of life. These complexes, as Mercier* shows from other points of view, act as parasites on the total system of the mind and alter the whole balance, so producing ultimate failure of the person to readjust himself to his environment—the failure that is the essence of insanity.

This is only a very fragmentary indication of Freud's views of the unconscious, which are presented to us by Freud himself and his school as pure psychology. As, however, Dr. Brown explains, the same phenomena are capable of expression in terms of neural physiology. If we assume that the alteration of thresholds (suggested by Boris Sidis) between the various portions of the brain, and if resistance at the synapses between the neurons or neuron-systems be accepted for the moment as a form of "threshold," there should be no difficulty in picturing a cerebral mechanism corresponding to the facts we have been considering. Dr. Brown writes: "Since normal reciprocal innervation is best explained by McDougall's theory as a reciprocal inhibition (this being caused by the drainage of innervation energy from the less intensely charged chain of neurons to the neuron-chain carrying the increased innervation necessary for the initiation of a movement), our case is one of functional disturbance of this mechanism in the form of altered resistances at the synapses. Paralyses, contractures, and, in fact, all motor symptoms observable in hysterical patients may be physiologically explained in exactly the same way. It is a short step from this to a similar explanation of sensory symptoms.

* *Psychology, Normal and Morbid.*

Such explanation, of course, merely supplements, it does not exclude, a psychological interpretation in terms of 'meaning' such as Freud gives."*

As I indicated in the observations on Sally Beauchamp, the complicated phenomena of that group may be rested on a similar physical basis. Freud himself indicates such a possibility :—" We shall avoid any misapplication of this manner of representation if we remember that presentations, thoughts, and psychic formations should generally not be localised in the organic elements of the nervous system, but, so to speak, between them, where resistances and paths form the correlate corresponding to them. Everything that can become an object of our internal perception is virtual, like the image in the telescope produced by the passage of the rays of light. But we are justified in assuming the existence of the systems, which have nothing psychic in themselves and which never become accessible to our psychic perception, corresponding to the lenses of the telescope which design the image. If we continue this comparison, we may say that the censor between two systems corresponds to the refraction of rays during their passage into a new medium."†

There is one final point that to my mind is of primary importance, namely, the repression of painful ideas. Freud says :—" A perceptive stimulus acts on the primitive apparatus, becoming the source of a painful emotion. This will then be followed by irregular motor manifestations until one of these withdraws the apparatus from perception and at the same time from pain, but on the reappearance of the perception this manifestation will immediately repeat itself (perhaps as a movement of flight) until the perception has again disappeared. But there will here remain no tendency again to occupy the perception of the source of pain in the form of an hallucination or in any other form. On the contrary, there will be a

* *British Journal of Psychology*, VI.

† *Interpretation of Dreams*, p. 484.

tendency in the primary apparatus to abandon the painful memory picture as soon as it is in any way awakened, as the overflow of its excitement would surely produce (more precisely, begin to produce) pain. The deviation from memory, which is but a repetition of the former flight from perception, is facilitated also by the fact that, unlike perception, memory does not possess sufficient quality to excite consciousness and thereby to attract to itself new energy. This easy and regularly occurring deviation of the psychic process from the former painful memory presents to us the model and the first example of psychic repression. As is generally known, much of this deviation from the painful, much of the behaviour of the ostrich, can be readily demonstrated even in the normal psychic life of adults.”*

This seems to me not unrelated to the principle enunciated by Bain as the “law of conservation,” according to which states of pleasure tend to be continued and states of pain tend to be discontinued in experience. His well known account of the development of will as spontaneous action regulated by the law of conservation needs only a reference.

Conclusion.

There is almost no limit to the particular puzzles of interpretation that arise out of these broken personalities. I put only one or two special questions.

1. Is there anything in the development of the normal self that has not a parallel in the development of these secondary selves? What meaning are we to assign to “self” in the two cases?

2. Can a secondary self be said to have an embryonic, a mature and a fading stage, like the normal self, which emerges into organisation only by minute stages? If Freud’s view of the persistence of infantile experience ripening into adult life be

* *Op. cit.*, p. 475.

accepted, the secondary self at whatever stage of life it occurred would contain much the same elements as the normal self.

3. If multiple personality be a fact, are we obliged to sacrifice, for psychological purposes, the category of "unity of consciousness" except in the same purely relative sense as we speak of the unity of the cerebrum or of the bodily organisation? Is the relative unity of the psycho-physical organism sufficient for the purposes of psychology? If it is, can we give any metaphysical value to such a "unity of consciousness"? Is the value of the concept metaphysically any more affected by the fact that a group of "personalities" may develop within one body than it is by the fact that normally each body may be assumed to have one personality? In other words, can any argument for "animism" in Dr. McDougall's sense be based on the need for such a category as "unity of consciousness"?

4. Do the facts of multiple personality logically require us to decide in favour of one or other of the two main views of the relation of mind and body—(a) parallelism, (b) interactionism? Are these exclusive alternatives?

5. Do the facts of multiple personality (*e.g.*, the Beauchamp group) require us to assume a memory without a neural correlate? What type of fact necessitates this assumption?

Dr. McDougall, in an early paper, suggested that certain facts pointed to the existence of a memory unrelated to anything physical, and he carries the argument into much detail in *Body and Mind*. As an argument against the existence of a particular structure or form of motion parallel to a given thought, I can understand the point; but I am not clear as to what a memory uncorrelated with matter is, or how its existence is shown to be a probable inference from accepted facts as to multiple personality.

NOTE.—The paper, "Observations on the Case of Sally Beauchamp" (referred to on p. 1), contains some other points that deserve discussion, but that here can only be referred to.

IX.—THE NOTION OF A COMMON GOOD.

By F. ROSAMOND SHIELDS.

THE statement that it is a formal and essential characteristic of the Good to be common (whatever the content of the idea may prove to be) is usually regarded either as a mere truism or as a highly controversial proposition. From the first point of view, encouragement in discussing such a subject is afforded by the words of a distinguished member of this Society, that "nothing stands in greater need of demonstration than the obvious"; this paper, then, is simply an attempt to recall some of the grounds and consequences of the belief in a Common Good.

That the Good is common seems to be a direct result of its objective nature, and the objective nature of the Good will not be denied by any who think that there are fundamental ethical concepts of an irreducible kind; in this paper I assume that terms like "good," "right," and so on, are not analysable beyond a certain point, but are ultimate descriptions of states of consciousness, or ends, or conduct, or whatever else the term may apply to. The judgment, then, that the Good is common will be an analytic proposition. If there is such a thing as Good at all, it must be recognisable as such by all rational individuals; just as the notion of Truth means what is true for all, whatever the content may be, so the notion of Good means *common* good. If the adjective is omitted, the substantive disappears. If this common and objective nature of the Good were not implied in the very term, why is its usage maintained? Why not describe our ethical preferences in purely personal terms of like and dislike and get rid of a word which, as it stands, suggests a certain transcendence of the purely personal point of view? The Good, if a valid category, is something with which individual caprice must be

brought into harmony; its nature does not depend on the voluntary activity of any one or any number of individuals, though its existence in space and time is partly conditioned by individual volitions. "If there is such a concept," says Mr. Bertrand Russell, "then what is good is not good *for me* or *for you*, but is simply good." Again, "it is quite essential, in the study of ethics, to realise that there is an impersonal sense. . . . We cannot maintain that for me a thing ought to exist on its own account [this description of the good having already been offered], while for you it ought not; that would mean merely that one of us is mistaken." The view that good is subjective and variable "is rendered plausible," he continues, "by the divergence of opinion as to what is good and bad, and by the difficulty of finding arguments to persuade people who differ from us in such a question. But difficulty in discovering the truth does not prove that there is no truth to be discovered."* Similarly, the fact that this or that individual is inclined to identify his private interest with the Good does not prove that there is no such thing as good which is not peculiar to him. Precisely the same kind of transcendence of private opinion is to be found in the judgment of æsthetic value. "Tastes differ" is not the last word in criticism, if the claim of Æsthetics to be normative is considered; and that claim is presupposed even by those who deny it whenever they argue (as is not infrequently the case), *e.g.*, that such and such things *ought* to be admired, or when they dismiss something else as "bad taste."

But if this notion of a Common Good is simply a truism, how is it that it fails to meet with universal acceptance? There must be reasons, psychological if not logical, for the non-acceptance of the obvious. Two readily suggest themselves:—

* *Philosophical Essays*, pp. 4b, 7, 10.

(1) The contrary belief that the good of different individuals is conflicting.

(2) Confusion of the two distinct positions involved in saying (a) The Good is common, and (b) Whatever is, is right.

I.

1. The wide-spread opinion that there is conflict and mutual incompatibility between the good of different persons ultimately rests, it seems to me, on a confusion between "good" and "interest," or—if the phrase is preferred—between real and apparent good, a distinction which the individual, at the time of judging, often fails to take account of. To admit that my good really conflicts with the good of another is to destroy the very notion of Good—a consequence which is clearly recognised by some at least of those who interpret the fact of divergent opinions in this way (*e.g.*, Bradley and Taylor)—though it is obvious that our pleasures and personal preferences may be in frequent collision with those of others; the problem in the latter case is merely the practical one of mutual adjustment, no more serious issue being at stake. "Interest" is a word not free from ambiguity, but on the whole it suggests what the individual takes to be his advantage, and this is not necessarily the same as his good (or, as it is sometimes called, his "true interest"). If his good is not recognisable as such (I do not say *felt* as such) by a dispassionate observer, and seen to be "simply good," what meaning is there in it distinguishable from pleasure or preference? And if it is "simply good," it remains so, whether or not it also appears "good for me" or "good for you." Of course the consideration of its effect on you and me may be an important prior consideration in deciding whether it is good or not; but this does not in the least affect the point that, if rightly judged good at all, it is good for everyone concerned, *i.e.*, is a common good. The difficulty

arises partly, I think, from an unwillingness to admit that something may be good which offers little or no hedonistic advantage as far as any particular individual is concerned. That there is conflict of interests (using the term as above) it would be folly to deny, but this admission need not lead to the ethical dualism which is sometimes based upon their discrepancy. The never-ending controversy between egoism and altruism, self-realisation and self-sacrifice, turns, at least partly, upon this confusion of "interest" and "good." I fully agree with those who urge that it is impossible to describe the good adequately in terms of either the one or the other; self-realisation and self-sacrifice may be essentially opposed to one another, or they may be modes of one another (which is quite as plausible an interpretation of their relation); in any case they, with egoism and altruism, are formulæ too one-sided and abstract to express the concrete reality. Self-realisation—even when interpreted with due recognition of the essentially finite nature of the self as given and hence of the impossibility of leaving out the relation to other selves and objects, apart from which the self would have no content—is an unfortunate term, as it puts the emphasis on the wrong side from the beginning.

2. Again, the conflict between the claims of the individual and the claims of society does not necessarily destroy the validity of the Common Good. As with contrary judgments, both may be wrong—they usually are, if pushed to extremes. We may admit to the full that "no existing social organism secures to its individuals any more than an imperfect good" without going on to say that "in all of them self-sacrifice marks the fact of failure *in principle*" (*italics mine*).^{*} To recognise that no *de facto* community is more than an inadequate embodiment of the Common Good does not touch the reality of the latter.

^{*} F. H. Bradley, *Appearance and Reality*, p. 421.

3. There is, however, a further sense in which it may be urged that good is conflicting: by this is meant not only incompatibility of personal preferences, but the fact that the realisation of *any* good in the concrete involves a limitation and negation of possible good in another form. But this impossibility of eating your cake and having it characterises the whole sphere of finite existence and is not peculiar to ethics. Who can calculate, for instance, the loss to other fields of activity involved in the fact that many members of this Society have chosen to be teachers of Philosophy? We might of course prefer a universe in which all things were possible to all men at all times, and in the notorious absence of such a paradise we may often resent the facile optimism of the "best-of-all-possible-worlds" attitude; but after all we have got to accept facts as they are. Any candid observer of human life recognises that the amount of good actually realisable at any time is a finite quantity, or (to avoid quantitative terms) the good has to be realised under conditions which impose limitations as well as afford opportunities. As far as the individual is concerned, we are aware that not all his inherent capacities can find adequate scope and fulfilment, but that a choice must be made between them; we do not, however, thereupon proceed to deny that there is for the individual some course, some line of development and activity, which is good. The very phrase "to make the best of a bad business" shows that we believe *some* good to be realisable under the most unfavourable conditions. Why should we forsake this reasonable attitude when it is a question, not of one individual but of a number? There is no difference in principle between the two cases; in the latter the conditions are more complex, that is all. That is, the principle of the Common Good is not contravened by the fact of finiteness, nor does it recognise any *essential* difference between selection (*a*) among my own possible goods, and (*b*) among the possible goods of everyone concerned: in both cases abstract possibility is not

the same thing as actual "conpossibility." The sum total of good that is actually realisable in and by a community x may be less, or more, than the amount realisable in another community y , but in either case what is good is a Common Good. Finiteness of opportunity, even more than of endowment, is an inevitable condition of any activity or development whatever; but it does not lessen the cogency of the Common Good; rather, it heightens its significance, and imposes on the individual the obligation of considering his special contribution thereto; that is, individual vocation, and its acceptance, is essential to the realisation of the Common Good.

II.

1. Another misconception sometimes hinders the acceptance of the principle of the Common Good; that is, the assertion of the principle is supposed to be equivalent to an unblushing optimism. Logically, however, it is equally compatible with the deepest pessimism. To argue the principle on these grounds only confuses the issue. To say that the Good is common does not commit us to any theory as to the actual amount of it in the universe. The principle of the Common Good might be rightly dismissed as futile, if not much worse, if it necessarily led us to defend any particular *status quo* as intrinsically good or even as the best possible under given conditions. On the contrary, the statement, if seriously accepted, that what is good for A is good for B also, is one of the surest ways of leading A and B and the rest to ask whether the *status quo*—which seems highly satisfactory, say, to A—is really so good as is taken for granted. If the criterion of a Common Good is once accepted, some people's so-called goods may turn out to be shams, sometimes dangerous shams, *e.g.*, any "good" of mine which inevitably involves what candour compels me to admit is not good for others concerned should cease to appear good to me; and *vice versa*. If any apparent good cannot show itself to be common, we are justified in challenging its value. It is easy to see that such a test can

be abused in a hundred ways—by advocates of fantastic theories of literal equality, by Philistines who “have no use” for what is not useful, by stupid people who are unwilling to let others enjoy what they themselves have no taste for, and so on. Nor is the principle to be made a cloak for cynical indifference to the sufferings of others, nor used as a screen to shelter the hypersensitive from “the unfanciful facts of pain”; *e.g.*, selfish indulgence, on the one hand, and starvation, on the other, do not look much like constituents of a Common Good. But *abusus non tollit usum*, and the reasonable application of such a criterion goes far to show that the notion of a Common Good is not merely a pious platitude.

2. An objection of a similar kind may be brought against the principle when it is said, *e.g.*, that it would lead to a Tolstoian extreme of non-resistance and passivity, and that the refusal to recognise egoism as a valid basis of conduct would result in a supine acquiescence in injury and wrong. But this does not follow in the least. There is no *prima facie* obligation not to resent injury and wrong (themselves perhaps the result of the egoism of others); the Common Good will not in all circumstances mean unbroken peace: it is good for the oppressor that he should be resisted: it is good that wrong should not go unpunished. What is the good of all concerned will vary enormously according to circumstances, and according to the part played by each man; that is why it is impossible to predict it except in very general terms, such as that it will at least be common. It is perfectly conceivable, *e.g.*, that under certain circumstances, capital punishment may form part of the Common Good (though this does not prevent us from feeling it would be better were there no question of its desirability). In any case, however, even the fact that an insincere and hypocritical appeal to the Common Good may have been used as a cloak for personal ambition or vengeance shows that the principle itself is generally admitted and implicitly recognised.

III.

Before giving any illustrations of the practical nature of the principle there is another point of view to which reference should be made. An objection may be made by those who, while not denying that a Common Good is a valid concept, will urge that there are limits to the dynamic force of logical demonstration (even if that is plain), and that the real issue lies in the wills and purposes of actual human beings. The Common Good is a reality, they may tell me, not in any *a priori* or transcendent sense, but only in so far as harmony between these human purposes is actually achieved; it is in process of realisation, very slowly and gradually. There is good in a limited sense, though not yet common; *i.e.*, there are interests which are valid even though they may be mutually conflicting, but there will be more good when people have learned so to manipulate their own that they reinforce, rather than cancel, that of others. At first, "the existence of distinct centres of consciousness . . . until they are brought into relation" leads to "discordant aims" and to efforts which neutralise one another.* The possibility of a Common Good, on this view, depends on the growing power of Mind, in particular of the social mind, to control the conditions of its own development, to secure co-ordination instead of cancelling of effort. On this theory, the Common Good would be simply the goal, and not in any sense the pre-supposition of ethical endeavour. It is, doubtless, the case that people are actuated by the Common Good long before, if ever, they are able to formulate their motives; further, that an immense impetus is given to such effort by the explicit recognition of its underlying principle. But these facts do not appear to have any particular relevancy when we are mainly concerned with the logical nature of the Good; at any rate they give no ground for questioning its formal characteristic. What may be, from

* Hobhouse, *Development and Purpose*, p. 288.

the chronological point of view, conceived as the goal may be, logically, a necessary implication throughout. T. H. Green has shown how from the first ethical progress has really been inspired by a motive, or motives, which we can on reflection see to be identical with the pursuit of the Common Good, even though "the area of the Common Good" has been unimagina- tively restricted and the idea itself narrowly conceived.* When attention has been directed to the implicit impulse or motive, we may naturally hope to see greatly increased co-operation towards the Common Good, *i.e.*, the conditions for its realisation will become more favourable and more good will be actually possible. But it is none the less true that from the first any good that has been realised has been a Common Good: the good does not change its character because men may often have been ignorant of that character.

IV.

The principle of the Common Good does not rest simply upon the fact that it is difficult, if not impossible, to realise my own good without the help of others and without some indirect benefit to them, though the significance of such facts is by no means slight, as showing the chimerical character of a purely individual good and as demonstrating the abstractness of the mere individual. But their authority might be questioned; it might be said that they are simply some of those conditions, non-ethical in themselves, under which, as we have seen, any good must be realised; and that to be a condition of the good is not necessarily to be a part of the good. To this extent we may agree with Sidgwick when he says that "the essential sociality of man, the universal or normal implication, through sympathy, of each one's interest or good with the interests of others" is not adequate to establish the desired conclusion; though, he adds, "it brings

* Cf. *Prolegomena to Ethics*, §§ 206-217.

me a certain way towards it.”* It is not the fact alone, then, but the recognition of the fact and the acceptance of all its implications, that is of importance. At the same time it is a little strange to find frequent objections to vicariousness, which includes the mediation of good as well as of evil, as being unjust and immoral. The implication of persons in one another’s fortunes is, as we have seen, an unavoidable condition of our whole life, not simply of moral progress: as a rule, no exception is taken to it, so long as it works advantageously; and a man is ready to accept all that comes to him from his family, his position, his School and College, his profession, and so on—

“Gift upon gift, alms upon alms upreared
From man, from God, from nature, till the soul
At that so huge indulgence stands amazed”—

and does not think it “unjust” that he should reap where others have sown. But when the reverse appears, he is immediately anxious to disclaim his share of the common lot, and there is much talk of unfairness, hardship, and injustice; it would not matter so much if he were consistent and refused the good as well as the bad, for the attempt would soon show him the futility of the assumption which is implied in it.

On the basis of need, which may be physical in its immediate character, there grows up a conception which glorifies bare fact and incorporates it into an ideal which finally goes far beyond demonstration of fact. The natural impossibility of doing without other people is gradually transformed into a moral compulsion to endless considerateness, and the fact of gregariousness or sociality becomes, when reflected upon, the source of a sense of disinterested worth. This supervening of consciousness upon the facts, and the difference made thereby, has recently been described by Royce in his enumeration of the conditions needed for any community.

* *The Ethics of T. H. Green, H. Spencer, and J. Martineau*, p. 56.

"The true common life of the community," he says, "consists of deeds which are essentially of the nature of processes of co-operation." Further, this co-operation must be accompanied by "that ideal extension of the lives of individuals whereby each co-operating member says: This activity which we perform together, this work of ours, its past, its future, its sequence, its order, its sense—all these enter into my life, and are the results of my own life writ large." *

V.

The common nature of the Good, I have endeavoured to show, is a truism, in the sense of being a primary principle of Ethics. No one (except the consistent Egoist) will deny it *in toto*, yet few are willing to follow it wherever it may lead when it comes to practical application. On the one hand, the principle is criticised because, truism though it may be, it sometimes leads to the unexpected; on the other, because it fails to settle every concrete problem on the spot. It has been already admitted that it may sometimes furnish no more than a negative criterion, *i.e.*, what is *not* common is not really good; and such a result does not carry us very far. Again, it follows from the formal character of the conception that it does not yield a detailed solution of particular problems. Nevertheless, the conviction that there is a solution, in terms of Good, may make all the difference in practice in raising people above the level of mere expediency or force, and in stimulating a patient search for the concrete embodiment of an admitted principle. Consider as examples any of our present problems—the Home Rule Crisis for one. It may almost pass the wit of man to devise a scheme that will do justice to all concerned; but any course of action which is based on the conviction that there is a possible maximum of common good is more likely to approximate to the right solution than one based on considerations

* Royce, *The Problem of Christianity*, ii, 82, 85.

of party politics alone. Again, take the case of industrial unrest: nine men out of ten, to judge by their words, seem to take for granted that there is a radical opposition between the interests of Capital and Labour. Whether that is true or not is partly a question for Economics, but in any case it does not dispose of the principle of the Common Good; the two protagonists themselves are abstractions, while the Good is the good of persons who are not exhaustively described in all their mutual relations by being labelled "capitalists" and "labourers." Another obvious instance is seen in the increasing burden of armaments among civilised nations. Here, again, it would be foolish to overlook the existence of the economic aspect of the question: but the Common Good is something to be realised on the basis of the actual conditions, whatever their nature may be; and it is further to be remembered that the conditions themselves are, to some extent, capable of modification. The popular assumption of incompatible interests between two or more nations is no proof of the unreality of their Common Good; "in fact," says Mr. Bertrand Russell, "it is difficult to see what grounds there are for such a view . . . If good is to be pursued at all, it can hardly be relevant who is going to enjoy the good . . . It is indeed so evident that it is better to secure a greater good for A than a lesser good for B, that it is hard to find any still more evident principle by which to prove this."* It is equally irrelevant whether A and B happen to be nations or individuals.

And yet even on the smaller scale of individual life there is frequent reluctance to follow the principle of the Common Good to its practical results. I do not mean anything due to ordinary selfishness, but an intellectual unwillingness. Take as an instance the competition between a number of individuals for an appointment. Do I mean to say, you may ask, that the result is equally good for the ninety-nine

* *Philosophical Essays*, pp. 47, 48.

rejected as for the hundredth selected? I do—though it may, in any particular case, be described as “equally bad”; but just in so far as the appointment *is* good (and my principle says nothing as to that matter of fact), it is good for all. Take another example: two men are in love with the same woman; one is refused, the other accepted. Does, then, the rejected suitor suffer no loss? Does he only get a lucky escape from what would have turned out disastrously? The principle of the Common Good does not enable any one to indulge in “might-have-beens”; but it does say this, that if the woman’s choice is good (again an open question), it is *good for all three*, even though this common good does not exclude the sense of loss. Such a result only appears paradoxical if we are determined to define the Good in purely hedonistic terms.

VI.

1. So far I have argued as if the notion of a Common Good were a more or less accepted truism, though not always clearly conceived in its legitimate consequences. But there is also the view that denies any such obvious character to the principle and believes that there is no essential oneness between the good of my neighbour and of myself. Such a denial of the Common Good, when it is not due to the acceptance of Egoism as a principle, is sometimes founded on the theory of “impervious” selves, a theory to which we must now devote a few remarks. Experience is usually cited in support of the conception of the atomic impenetrable self, while any idea of community or unity of selves is scouted as being “mystical” or “transcendent” or something else equally abhorred of common sense. But this one-sided appeal to experience is not justified; there is as much evidence for the interpenetration as for the impenetrability of selves or persons—if spatial metaphors are unavoidable, let us at least choose those that are nearest the truth. Reflection on our own development will not fail to show, I think, that the capacity for, and feeling of,

identification of ourselves with others grows *pari passu* with the sense of distinctness and incommunicability; we become more, and not less, ourselves as we learn to go out beyond ourselves; fulness of life is found in a vicarious extension of personality, until we cease to be cramped by "the crude antithesis between 'self' and 'not-self' which it should be the common task of philosophy and religion to reduce to its proper insignificance."* There is no need to labour the point, as some degree of this progressive expansion is the common experience of all normal persons; nevertheless, it seems to receive less than justice at the hands of writers like Dr. Rashdall. When, *e.g.*, he says that "it is impossible to give any meaning to the simplest ethical conceptions except upon the assumption that I and my neighbour are (for practical purposes) different persons, and that my good is distinguishable from his good,"† we must add that it becomes a still more impossible task if this difference is taken as the last word on the subject or the final truth as to the relations of persons. Of course, two persons will always be two, numerically; but there is a unity which is not that of bare number at all, and the kind of difference that is supposed to be relevant in discussing the Common Good disappears whenever the relation of love arises. When this is the case, impenetrability and imperviousness are overcome, or rather they are realised to be but shadows, and a Common Good is the most obvious and natural thing in the world. *In principle*, then, the objection based on atomistic individualism falls to the ground, in spite of the fact that, practically, most of us are more or less straitened in our affections. But this is no reason why we should deny, on the larger scale, the possibility which we have actually verified for ourselves within the limits of such genuine love as we have experienced;

* W. R. Inge, *Personal Idealism and Mysticism*, p. 98.

† *Theory of Good and Evil*, ii, 102.

in some region each of us can point to a good which we feel to be common, and this is enough to give a real basis for R. L. Nettleship's supposition:—"Suppose for a moment that all human beings felt permanently and universally to each other as they now do occasionally to those whom they love best Then go further, and suppose every particle of energy in the world animated by the equivalent spirit to 'love' in the particular form of energy which we call human consciousness. So far as we can conceive such a state, it would be one in which there would be no 'individuals' at all, in the sense in which 'individuality' means exclusion; there would be a universal being in and for another; where being took the form of consciousness, it would be the consciousness of 'another' which was also 'oneself'—a *common* consciousness."*

2. If it is objected that any such conception is metaphysical or in any sense extra-ethical, that is no more than might be expected and is of no great concern here. The business of Ethics is to make clear what is implied in common moral experience, and it is not affected by the technical character of these implications. The Common Good may, as Sidgwick suggests at the conclusion of the *Methods of Ethics*, ultimately need certain theological presuppositions; or it may not, as Mr. Russell and others think. In any case, my point is that within the sphere of Ethics the common character of the Good is an essential part of the concept, and that it finds verification on psychological lines also. Self-assertion and self-centredness may be facts, and as such may seem to threaten the theory (which is what chiefly matters here) as well as the practice of the Common Good; but even on the level of ordinary experience they are by no means exhaustive, and the "impulse of the finite to self-transcendence" is a proof of this. Instead of the hard and fast lines which have come into our mental picture of

* *Philosophical Remains*, i, 42.

individuals, we come to perceive that "at every point the web of experience is continuous; [a man] cannot distinguish his own part from that of others, and the more he realises the continuity the less he cares about the separateness of the contribution to it. Sometimes it seems to amount to an accident who in particular obtains the credit of knowledge and ideas current in certain circles or professions . . . It is impossible to over-rate the co-operative element in experience. And its importance has a considerable bearing on what we are apt to call the problem of unfulfilled promise. By unnoticed contributions to the common mind, very much is preserved which seems to have perished, and in some cases perhaps the half has been more than the whole."*

3. To sum up: the Good, whatever be the particular content of the term, is a Common Good, and the Common Good implies a relation which is not that of mere exclusion, between persons, though this relation is not always manifest on the level of everyday experience. This last, however, need not surprise us, for the average man is as a rule sublimely unconscious of the full force of the principles which, as a matter of fact, actuate him, and of the manifold conditions under which his life is lived. The principle of the Common Good may itself need a metaphysical justification; but without it, the science of Ethics is incoherent and illogical. The question whether the Common Good is an ultimate reality depends on the question whether there is in the Universe (or whether the Universe itself is) a Community of such a nature as is portrayed by Professor Royce;† from his description I borrow the following words: "The ideal Christian community is one in which compassion is a new incident in the realisation of the new life, not only of brotherly concord, but also of the interminably positive creation of new social values, all of which

* Bosanquet, *The Principle of Individuality and Value*, pp. 21, 22.

† See *The Problem of Christianity*, especially vol. i, Lect. vii; vol. ii, Lect. x.

exist for many souls in one spirit." It "is to be the community of all mankind—as completely united in its inner life as one conscious self could conceivably become, and as destructive of the national hostilities and the narrow passions which estrange individual men, as it is skilful in winning from the infinite realm of bare possibilities concrete acts of control over nature and of joy in its own riches and grace." It is a "free and faithful community of all mankind, wherein the individuals should indeed die to their own natural life, but should also enjoy a newness of positive life . . ." (i, 345).

X.—THE TREATMENT OF HISTORY BY PHILOSOPHERS.

By DAVID MORRISON.

HISTORY is the methodical record of public events, the study of the growth of nations and of the whole course of human affairs. The business philosophy has with it is to determine the purely epistemological questions connected with historical investigation and to take account of human history in connection with process as a whole, in order to determine whether history is a process of which, as a whole, an explanation can be given. Regarding the presuppositions of historical investigation I shall say very little. Regarding the way in which man must pronounce his final judgment on history I shall say a good deal.

Human history has as a background the whole world, of which human beings are a part. It is

“ Rolled round in earth’s diurnal course
With rocks and stones and trees.”

Can historical process be adequately explained by principles which have sufficed for the explanation of the processes of inanimate nature? or, if it cannot, are we compelled to question whether, after all, mechanical principles suffice even for the explanation of the world of nature? The central importance of the interpretation of historical process is evident. As Professor Ward says, the two forms of determination which we may contrast in a man saying that he is determined to face the wind, and in his saying that the direction in which the dust blows is determined by the direction of the wind, are distinctly different. The latter form, implying in the last resort the categories of mechanism, underlies our scientific description of the realm of nature. Man has emerged from this world to find himself acting, as it appears, not in accordance with

mechanical but with final causes. Is this an illusion? or, if not, may the world as a whole not have a final cause to which the mechanism it exhibits is entirely subordinated? A philosophy of history thus cannot evade the question whether the world as a whole is to be explained in terms of purpose or not. If it is, human purpose must be related to this final cause. But, if the world as a whole is realising some purpose, it is one we can scarcely formulate, because we must be imperfectly conscious of it, and the human purposes subordinated to it are also possibly completely transmuted by it. Man's activities, often fully conscious and rational within their own sphere, may be, with regard to this wider sphere, much on the level of those instincts which in certain insects are the means to ends of which they are unconscious. Men may know what they are doing, but not why they are doing it.

In any consideration of final cause in history we are compelled to face the question of the nature of time and its relation to ultimate reality, and we are forced back to the source and primary meaning of causality as we find that in ourselves as active or efficient. A use of the principle of causality applicable to most scientific investigations, having as its presupposition the connexion of all constituents of the universe within a whole, such that change or difference in one part involves corresponding change and difference in other parts of the whole, seems not strictly acceptable when dealing with human causes, unless it can admit spontaneity or individual activity as a fact. You must meet the question, Are determination by personal agency and determination according to universal law really mutually exclusive? The question of the freedom of the human will is thus quite a real question for anyone writing a philosophy of history, and so also, I am afraid, is the question of the reality of time; because we have to ask what strictly we mean by the evolutionary character of history strongly advocated by Herder and Hegel and many other eminent thinkers. This appears to be the leading idea

of everyone who desires to get a grasp of historical facts ; but evolution means a very different thing according as you understand by it the appearance of a timeless reality, most completely revealed where the consciousness of man attains its maximum of artistic, moral, religious, and philosophical achievement, and always and completely existing in finite conscious centres, everything that happens happening by a logical necessity that insures this result, or a process of what has been called epigenesis, that is the origination by integration of new properties in the whole which its constituents in their isolation did not possess, and which the whole could not be said to possess previous to their emergence whereby it became more completely a whole. Both views have eminent exponents. Is there really any reason for assuming history to be an evolution either in the one sense or the other ?

If time is unreal then what we see in history may indeed be the fragmentary presentation of something eternally perfect, but it may give us only glimpses of an ultimate chaos. If time is real the end is not yet attained of course, seems, indeed, never completely attainable, and that to some people appears an insuperable objection. But the thing must be one way or the other. Now a philosophy of history may be written by one genuinely convinced of the unreality of time, and such have been written. A thinker of this kind, however, cannot place the importance of history very high. For Dr. Bosanquet, for example, "history is a hybrid form of experience incapable of any considerable degree of being or trueness." "The doubtful story of successive events," he says, "cannot amalgamate with the complete interpretation of the social mind, of art or of religion." But history will appear somewhat differently if we regard it as the record of an actual achievement by which reality in some way appreciates in value. This notion may be incoherent, but some have held it, and it must be considered. From this point of view the evolutionary character of history might exhibit not so much

wholeness in becoming as becoming in wholeness. If history exhibits the working of one evolutionary law producing one line of becoming which is unrepeatable, it cannot be possible to forecast the supposed end of historical evolution, because the historian, and I would add even the philosopher, is himself a link in the evolutionary process he tries to discover. He is, as Dr. Driesch says, "really in the position in which an embryonic cell would be supposing it were a thinking being and we asked it to say whether the strange collection of processes amidst which it stands is a supra-cellular unity or not." Thus the thinker who is convinced of the importance of time and of human achievements will regard the interpretation of their record as a profoundly important matter, but one admittedly very difficult to set forth. But, though he may be unable to deduce final cause in history from the ultimate idea of the good, he may inductively ascertain principles regulating human actions on the whole, and see indications of its probable line of development.

By whomsoever it is written history purports to be the record of what really happened. Actually it is always only an approximation to a perfectly truthful record. How does it proceed? Not by merely putting down the facts as they occurred and saying when they occurred, but by interpreting them. A fact of history is a microscopically small amount of immediate experience caught in a net of relations which are the very nature of consciousness itself; a fact in history is a fact in and for man's spiritual life, by which alone it can be interpreted. As has been said, nature may make the man who knows, but the man who knows makes history. This is not to be understood, however, to mean that he can make of it just what he likes. One may relate history to any particular centre of conscious experience, but, as related to some centres, one will find the greatest difficulty in arranging his material causally or even employing the whole of it, and such speculation upon the concrete events may be incompatible with leaving

them unimpaired facts. Historical materialism is an instance of the choice of what is on the whole a false centre to which to relate historical facts. It claims to give an immediate copy of reality, but it is clearly a formation of the given according to certain theoretical demands and assumptions which are incapable of exhibiting its whole nature. The only meaning historical materialism retains is that events occur *as if* man were governed solely by economic conditions and motives, and we know that this is not so. The historian—and the writer of a philosophy of history—is always a species of artist in the arrangement of his materials, and cannot avoid being to some extent partial, because he cannot completely penetrate the reciprocal influence of all historical factors, and, since it alone constitutes the real unity of history, each unified picture possible of the total process only comes into existence through constructive one-sidedness. But as in all art so here: the greater the art, the better it displays vital truth. I should say that relatively to historical materialism what may be called historical idealism is greater art and deeper truth. It seeks to relate historical fact to what it conceives to be the highest human experience. Thus for Dr. Bosanquet, the latest and perhaps the best exponent of the school of thought I wish to indicate, “the test of a philosophy in dealing with historical progress is to reconcile the sense of creative achievement in the self with its recognition and acceptance of a perfection which is not won by its own finite activity though represented in it in the highest experiences of art, of religion and of social service.” If I dissent from the claim of this school to exhibit the complete truth of history, which with great diffidence I do, it is on the score of its somewhat arbitrary selection from historical data. It regards too many things as irrelevant which I can never bring myself so to regard. It may be mere intellectual weakness on my part, but, if I take the privilege accorded by some of these writers of regarding time as real if I don’t take it to be more

real than it is, I do not know where to draw the line; and it may be pure human weakness on my part which merits no consideration, but I value human beings too highly to feel perfectly satisfied with the account this school gives of their place and importance in reality. That individuals might come and go so long as the Absolute went on, or rather was on, for ever, seems to some of us who bear the burden of life rather an inadequate account of the sufferings of Time. Whether the contention of mere pessimism that pain and evil preponderate in human experience can be made out or not, there is more than enough of both in this strange world in which tragedy is the highest form of art and a crucified God the greatest religious symbol. Now the reason of all this which the philosophy of history I am disposed to criticise offers amounts to nothing more than the assertion of the worthlessness in and for itself of the historical individual. "The probably limited future of the race will," Dr. Bosanquet says, "probably increase our grasp of the whole both in practice and theory and aid us in a profound and considerable transvaluation of values, but what really matters, what alone in the main the future can conceivably have to offer, along with an increased wealth and harmony of finite existence, is a profounder sense of the worthlessness of the finite creature in and by himself." And again he says, "Human freedom will continue to assert itself substantially not in direct proportion to material and scientific progress, but in proportion to such progress so far as accompanied by the insight, won by sad experience of its failures, into the insignificance of its value except as controlled by a consciousness which is aware of that insignificance and of its relation to what in truth makes life worth living." "There is no stability nor security," he adds, "of the finite self which has not in principle drawn its confidence out of the ultimate despair." In so far as it unflinchingly accepts the suffering and imperfection of the transitory world, I have great respect for this school of thought, which reaches an austere nobility of

expression with Dr. Bosanquet ; but in so far as the account it gives is held to satisfy human questioning and still for ever human dissatisfaction I feel compelled to dissent. To say that a world is rational because everything in it is in logical sequence does not convince everyone who realises that he has by logical ground and consequent to treat as on one level mechanical cause and effect and human motive and action. When we ask "why?" such a theory may tell us "how," but it is mistaken in thinking that it thereby answers the question. The great purpose of the world, if there be one, may wreck on the passage to its fulfilment this or that human purpose and we may still continue to call it rational ; but, if it wrecks all human purpose and is incompatible with the conservation of any purely human value, I am not so sure that we ought to continue to speak of it as rational. If a finite being could get an answer to the "why?" expressed by the Absolute in merely human terms it would apparently be, "because I cannot help it"! This may satisfy some, but it cannot satisfy all, and everything must turn on the discussion of worth and permanence. In this matter I feel it is hopeless for man to attempt to be superior to what Bacon called the *Idola Tribus* ; we must regard things in their relation to us, just as we seek to discover final causes in nature because our own actions depend on such. We find a frankly human treatment of the question in Lotze's *Microcosmus*. Lotze says that, "he who sees in history the development of an idea is bound to say whom this development benefits or what benefit is realised by it." "If we were forced to believe," he continues, "that all personal life is but a stage of development through which an impersonal Absolute has to pass we should either cease our efforts" (Lotze's assumption that we *could* do so is of course somewhat bold), "since we could discover no obligation to co-operate in helping on a process totally indifferent both in itself and for us, or we should feel that, despite its finitude and transitoriness, human life was somehow richer and nobler than

the logically necessary development of the Absolute." And Lotze goes on to express himself with passion. "As long as we have breath," he says, "we shall strive against this superstition which though so calm is yet so frightful, spending itself wholly in veneration of forms and facts, thinking of importance only that everything which exists should recall symbolically something which itself it is not, should ring in unison with activities which it does not exercise, with destinies which it does not experience, with ideas of which it remains ignorant. When in history the rich-hued ardour and passion of human life are unfolded before adherents of this doctrine, they ask if there is no way of reducing this grandeur back to something poor and small, of imposing the tedious emptiness of a logically necessary development upon man as the final meaning and end of the universe. And therefore will we always combat these conceptions which acknowledge only one half and that the poorer half of the world; only the unfolding of facts to new facts, of forms to new forms, and not the continual mental elaboration of all these outward events into that which alone in the universe has worth and truth—into the bliss and despair, the admiration and loathing, the love and hate, the joyous certainty and the despairing longing, and all the nameless fear and favour in which that life passes which alone is worthy to be called life." "And yet," Lotze says, "no doubt our combating will be wholly in vain. For those whom we oppose will ever seek afresh to cover the imperfection of their ideas with the cloak of a generous putting aside of self."

I think Lotze is in the main right. To discover a meaning in the world which cannot be translated into terms of human purpose, or clearly related to human purpose, is the same as acknowledging that, though the world may be intelligible, it is, for man, substantially meaningless; it is a place within which he builds up his isolated system of human value and meaning, to which it is indifferent. To help us to decide the questions at

issue let us look in the broadest outline at the way in which man writes and interprets history.

Personally, I am not friendly to the school of historical theory that assumes universally constitutive forms and a fully undetermined and indifferent matter, and that deduces value from epistemological principles. The most important postulate we must make as the historical *a priori* is a relative identity for psychical constitution. The great ideas operative through history we must, as far as possible, try to understand as psychical structure, although psychical comprehension appears to find its limit in the self. We understand events because we bring to them this form necessary for their comprehension. The souls of other persons are intelligible connexions of processes because our own is, and facts are naturally best understood where they emanate from a definite character. The principles according to which we proceed in dealing with a group seem to require fuller explanation. A unity has to be sought and is somehow found, but scarcely according to any one definite principle. The psychical processes considered are at one time those of its leaders, at another those of a constructed average type, or, again, those of the majority. The psychical context, the space left for deviation, the eking out of innumerable fragments to a complete picture, may be implicitly logical, but is certainly dependent upon psychological experience. Certain of our experiences, though they are ours, appear to us not so much personal as typical experiences. An historical person is somehow grasped and reproduced as an association of universal psychological elements. What we call historical truth is got by spiritual activity, which of its material makes something which it is not yet in itself, not merely through its grasp of detail, but by virtue of the questions it asks, the significance it elicits, the fashioning of the past to a something which is worth our present while. The material is in the last degree complex, and of it historical laws are an excessive simplification; we do not have identical

repetitions in history, if we ever have them, and the formulation of a principle of causation applicable to individual occurrences has yet to be made. What we have are such rough generalisations that we cannot talk of laws of history, or of a science of history, in the same breath with a science of physics or laws of nature. The concept of progress is also *a priori* and universal, but it is a blank form filled up in the most varied fashion. In various ways, according to the grasp and scope of our minds and the nature of our interests, we give concrete form to this concept of progress. If one asks, Is there progress in history, and why should there be? we have only to reply, What do you consider it desirable should result from human activities, and how far has the result been brought about by them? Some may find progress in increased vitality, others in the wisely regulated extinction of life regarded as in itself an evil; for some it may consist in the fuller appearance of the eternal, for others in the amount of socialistic legislation achieved, and for a few in the production of exceptional natures great enough to trample on the insignificant ideals of ordinary people. Whatever it is, your ideal is your idea of progress, and the question whether there is progress is at least formally invalid. The concept of value, also *a priori*, takes such varied forms that it has no easily discoverable universal element, and and in this perplexity you often find people entertaining a strange faith in mere change, and regarding immobility as the only absolute antithesis to progress. Again and again, one encounters the expression of a strange horror of a merely static universe, even if that universe were perfect, so that one can understand why the thinking of Bergson, which puts change at the very heart of reality, should have had such a striking resonance; but the philosophy of Bergson shows just exactly that change is not necessarily progress. Regarding all change we have to ask, Is it of value? Does it produce and conserve value? And that brings us sharply back to the question, In what do you put value? When one answers that question we have his measure

for progress. But if change is not necessarily progress, progress is necessarily change, and I am doubtful if the concept is quite disingenuously employed by those who deny the reality of change. "The only question of attainment that can be raised about this progressive endeavour" (the effort of the finite creature to pass beyond himself in achievement) "is," says Dr. Bosanquet, "whether or no the finite being recognises, it may be implicitly or explicitly, the full significance of his own nature. It is this that determines the relation of his progress to its aim." And again he says, "that our mastery of the whole must be in some sense relatively and within our connected course of history progressive, is guaranteed by the nature of the self-conscious being, whose 'duration' or affinity with the timeless lies in his accumulating a past which he carries along with him, adding to it what comes after. This is in some degree true of the race. But that what he keeps and gains always exceeds in value what he lets go would be a bold assumption," for which Dr. Bosanquet can see no justification. This in effect denies that there *is* what most people mean by progress in history; because it scarcely fills this *a priori* form to say that certain individuals have been great and noble souls, or that certain periods have been characterised by great spiritual attainment. Most people would demand, if we are to continue to talk of progress in history, that periods recognised as periods of progress should be in some real way affiliated, and that events in general, despite undeniable deviations, do tend in one desirable direction. There appears small ground for belief in progress if we cannot believe that, in all the permutations of society and through the apparently isolated activity of individuals, some one principle is being realised which unites and explains those epochs of human history which we regard as epochs of progress. This, I think, is implied in the concept of progress. In the actual state of our knowledge there is something to strengthen, and much to shake, our faith in its objectivity. It may for example be true that

Greek civilisation embodied all that was of worth in Cretan, but it may be that much was for ever lost of that strange genius, the relics of which are at least artistically so astounding, and the ruined cities of Yucatan attest a kind of greatness which clearly once was, but which, so far as our knowledge goes, led to nothing. Here I should like to say that I protest against history being taken in a narrow sense, as when one hears that certain western nations alone have exhibited an historical development. Much of this is the expression simply of the bias of happy exercise and sheer inevitable ignorance. Just as it might have been possible some time ago to write a history of æsthetics which ignored the contribution of China and Japan to the development of art, but is so no longer, so we never know at what moment a people whose historical development we have been complacently ignoring may come in vital contact with our own.

Man has always been busy giving a content to his idea of progress. Aristotle in his doctrine of a final immanent causality interpreted the process of becoming as a passage from potentiality to actuality, but seems never to have considered history in the light of his theory of development. During the Roman Empire the more philosophical students of history thought of events as moving in cycles, with which idea the Stoics united the idea of the unity of the human race, giving perhaps the germ of a real philosophy of history. Christianity brought the idea that human history marked a steady progress towards a goal fixed from all eternity, and the highest principles of value according to which historical events were appraised in the Middle Ages were found in the extent of their contribution to man's welfare in another world. With the Renaissance the idea of progress was associated with the attainment of self-sufficing activity and personal freedom. In the seventeenth century Leibniz emphasised the importance of philosophical development. In the eighteenth progress was largely held to lie in deliverance from prejudice and irrational authority, and

the importance of human happiness as a sign of progress was strongly enforced. Turgot was perhaps the first to lay down a clear conception of the idea of progress which he did not find in extension of knowledge, refinement of external civilisation or perfection of technical methods, but in an elevation of the whole of human nature to which these might be, but could only be, auxiliary. He declared in his *Discours sur les progrès successifs de l'esprit humain* that progress was being realised because observation showed that intelligence had become clearer, manners milder, nations more companionable, feelings finer and nobler, sympathy wider, and life a thing more happy and beautiful. To this conviction Condorcet gave glowing expression in his conception of the infinite perfectibility of mankind. Herder is principally noteworthy in this connexion for his attempt to give a decisive influence to empiricism in the construction of historical ideals. One may, he says, approach the study of history with a principle of value, but that will become precise and full and may conceivably be modified by the study of actual historical progresses. Herder himself found progress in an unrestricted peaceful unfolding of man's natural faculties, in his progressive realisation of his rationality, freedom and likeness to God. Kant laid stress upon the conservation of achieved progress in the institutions of a well ordered society which made individuals stronger than they could be in themselves, and for him progress consisted at once in the development of man's faculties and in the establishment of a just social order. It is for him a postulate of reason that historical development must be the realisation of ethical value, and its final object to free man from the mechanism of nature and make him capable of acting freely and morally. Hegel, taking one of his many cues from Kant, taught that the great moment of historical development lay in the development of the State. Individuals he treated as mere transition points in the development of the Idea and the different forms in which the one

common spirit had realised itself as the only things worth consideration in history. The leading historico-philosophical ideas associated with the German romantic movement are still, of course, of moment and influence. Their highest concepts of value were expressed as the evolution of the nature of spirit, that is of reason and freedom, realisation of the idea of personality, complete and harmonious human activity. Such an ideal may be held to have been realised even in the midst of great unhappiness and misery, perhaps by means of these, but in no sense impaired by them. But a hedonistic view of progress is always found set against an idealistic, and insisting on the importance for progress of the elimination of unhappiness and misery; and this may appear an important moment even to those who are convinced that absolute and eternal values realise themselves in history, because happiness may go with their attainment and may be treated as an indication of progress; because we should scarcely seek absolute and eternal values if that were not a very real way of seeking happiness. Many limited and relative points of view, dictated by some special interest or by patriotic or sectarian feeling, have found expression in the histories that have been actually written, and it would be difficult to extract any common standard of progress from them. We find Gibbon questioning whether mankind has progressed at all since the days of the Cæsars, because then peace and happiness and good government were universal. Against this we may infer that others would protest, because the peaceful thriving of nations is not the highest good, since it does not give full opportunity for the free unfolding of the noblest forces of life. In general it may be said that all men mark as progress increase of culture and the development of a many-sided individuality in persons and nations, such that each generation should have a better chance than the preceding of living worthily as men and significantly as spiritual beings. And I should say that while most men feel, however they may give expression to that feeling, that it

is somehow implicit in man's striving to pass beyond itself, few people regard society as the final end of the individuals who compose it. It is for most people a means and not an end, existing only to improve the material comfort and spiritual efficiency of its individual members. Of course universal social creations go to constitute the mind of the individual and form the general background of his thought and action; but from this common ground individuality emerges, and in it it is never lost. Höffding gives a new turn to Kant's thought when he says that perfection in a society is the degree in which each personal being is so placed and treated that he is not only a means but also at the same time an end.

How does our present-day philosophy deal with the bewildering mass of historical fact, traditional interpretation, and popular belief? Unsatisfactorily, I venture to think. The inheritors of the great philosophic tradition seem now more effectually "thirled," as the Scotch say, to science than philosophy ever was to theology, and somehow impatient of merely human questions. There may be some greatness in this which I cannot appreciate; but, at least, I want to urge the reconsideration of the attitude. However much a metaphysic of history may be a play of the phantasy, its deepest justification lies in this, that its roots are those interests but for which we should have no care for the knowledge of events. It is certainly a natural desire of man that his history should not be held to be merely the record of how he appeared in time, satisfied a few animal wants in himself and others, had a few moments of supreme insight into his own utter unworthiness, and then disappeared, having utterly ceased to exist, except vicariously, as an influence and a memory. It is with most people a postulate that their history must surely mean something more than this, and the inability to see what more it can mean is felt as peculiarly saddening. If it is the final reasoned judgment of philosophy that no more is to be said, many minds, ready enough to acknowledge and enjoy the

incidental charms of existence, would feel, regarding man's life as a whole, not so much a tragic exaltation as a bewildered scorn.

Lotze says: "The presentiment that we shall not be lost in the future, that those who are before us, though they have passed away from the sphere of earthly reality, have not passed away from reality altogether, and that in some way the progress of history affects them too, seems to be the conviction that entitles us to speak of humanity and its history." "History," he says, "cannot be a mere slender ray of reality slipping on between two abysses of absolute nothingness, past and future, ever consigning back to the nothingness in its rear that which its efforts had won from the nothingness in its van." Lotze may not be talking here as a profound philosopher, but he is voicing the pretty general feeling of mankind. There is this peculiarity about the value acquired by a human experient that, if it is ever lost by the extinction of that experient, it is hard to see how its painful acquisition was ever in itself valuable. It looks as if it ought to have been stamped in somehow as a permanent conscious gain. In discussing Green's doctrine of the conservation of personality, Dr. Bosanquet comes to the words, "Or we may content ourselves with saying that the personal self-conscious being which comes from God is for ever continued in God," and the following words, "A capacity which is nothing except as personal cannot be realised in any impersonal modes of being," on which he comments: "Here, I think, we begin to see that the fulfilment of the personal conscious being may lie rather in that which it would most wish to be assured of—its fundamental interests—being eternally real in an ultimate being and in the universe of appearances than in itself, with the formal personality which belonged to its proper name, being consciously perpetuated in a proper existence." On this I would comment, that we no more desire the immortality of our proper name than we do of our corns, but that *our* fundamental interests cannot continue

if *we* do not, although interests in which we were interested may still be represented. The important point for Dr. Bosanquet lies in his conception that the ultimate being can be conceived as comprehending in itself the human spirit and all that it is capable of becoming; but it is not so clear that the ultimate being is conceived as comprehending in itself human spirits and all that *they* are capable of becoming. And this is the important point for those who feel that such a preservation of personal values as Dr. Bosanquet depicts is somehow unreal. In a word, as he says himself, it is not primarily that the goal of development should be our personality, but that it shall be a personality.

If the words concrete and abstract were not already differently appropriated, concrete might describe that which has grown up with the unity of our personal consciousness. He who has to do with anything else has to do with a relatively abstract object. In any picture of the macrocosm, the living point of contact with the individual experient is lacking, because all scientific investigation is a defective instrument for dealing with the personal, the supreme synthetic sphere. The world which is presented in laws and rules of scientific experience is not on a level with the varied world of such concrete experience. There are in human individuality those two aspects by which we view it as a member of society or as a microcosm, and all protests that appear in the philosophic guise of individualism or personalism or pluralism have arisen because thousands of interpectinating activities have failed to reduce this individual aspect to a purely dependent creation, or to convince the individual that his contribution to objective reality really exhausts his meaning. As Professor Ward says, "The course of history shows us the gradual building up of society and civilisation, but ever widening social groups and ends of ever increasing scope are still in every case individual and concrete. The higher over-individual ends, politics, industry, science, literature, art, imply differentiation among men that in spite of

its significance would defy classification." And such individuals have an undoubted being for self, and it is only natural that to many thinkers the value of what we see going on in history cannot consist entirely in its objective products, but also, and mainly, in the effect of these upon the lives of individual human souls. The course of history would indeed be the moulding of souls on each of which is laid the task of bringing all the manifestations of reality to a unique decisive unity. Of course the nature of personality stretches beyond the empirical individual and any attempted reduction of one's thoughts and aims to his merely empirical self would be the cardinal sin. But that does not mean the blowing of one's self up and out like the frog in the fable in an impossible emulation of the Absolute: "a fragmentary being inspired by an infinite whole which he is for ever striving to express in terms of his limited range of externality. In this he can never succeed." In this world he does in some measure succeed. That is, there is increase of spiritual energy and continued conservation by unique centres of their hardly acquired values, which, as Dr. Ward says, distinguishes the historical evolution of experience from the steady downward trend of the physical world. Perhaps as Leibniz said, *tout est, comme ici*. I hope so. If, on penetrating to the depths of reality, it is shown that human striving is but a part of the effort of the whole to sustain itself, it seems desirable also that it should be shown that the whole sustains human striving.

In the last of his Gifford Lectures, Professor Bergson summed up by saying that what characterises the person is the continuity of movement of its inner life. That it seems as if the continuity of inner life had been sought after from the beginning and that each stage of the psychological evolution corresponds to an effort to acquire that continuity. That is, evolution has tended towards constituting distinct personalities, and that, from this point of view, the series of the species which are prior to man may be regarded as a gigantic telegraph wire,

over which has been sent the message of which the separate words constitute what we call human personality. According to the valuable summary which Professor Seth has given of these lectures, M. Bergson considers the modern doctrine of personality to be a form of Neoplatonism, weakened by the attempt to combine the theory of Plotinus with a philosophy of nature as a merely mechanical system obedient to mathematical laws and by the disappearance of the important Greek idea of the movement from the unity of the eternal and intelligible to the multiplicity of the sensible and material as a process of degeneration or degradation from true being. It regards all action as the result of desire, and therefore of incompleteness. It means the endless pursuit of completeness, but condemns the agent to failure; for it is the attempt to arrive at unity in time which is the sphere of multiplicity. All this is, in M. Bergson's opinion, a mistake, because the traditional philosophy of time is mistaken, and the application of this view of time so as to analyse the unity of personality into the multiplicity of the several states of consciousness is artificial and misleading. The life of personality is an unbroken and continuous change in time. Personality has two aspects, memory and will, a backward-looking and a forward-looking phase. Will is an *élan en avant*, the creative aspect of personality which utilises the past as an element in a new and larger life. And, since the activity of personality is creative, we seem warranted, M. Bergson thinks, in regarding the entire evolutionary process as the mechanism necessary for the creation of creators.

I do not know how these later deliverances of M. Bergson fit in exactly with his previous writings, but they show, at least, that he is now very much awake to the importance of this central problem of personality. Hitherto he had only arrived, as it seems to me, at a retrospective teleology; life had an identity of impulsion, not a common aspiration; and he gave us what appeared a disheartening account of human history,

as if we were part of a force that is spending itself rather hopelessly and blindly, and which might, apparently, be overthrown by its own creation. He spoke, indeed, of the possibility of its overcoming all obstacles, even death, but in no very confident tone, and actually it was deviated, divided, opposed to itself. He admitted that everything takes place *as if* life had some purpose to realise; but we had no very sure promise and guarantee of this. His subsequent Gifford Lectures will make his attitude on these questions clearer. At all events, the problem whether philosophy can give any adequate interpretation of the place and purpose in reality of individual systems of energy and those ideal constructions which gather round unique centres is a very important one. If it cannot, is not some leading principle of philosophy in need of revision, as M. Bergson maintains? Each human life is a relative whole within the unity of the world, deriving from its dependence on nature and society everything except its individual fashion of acknowledging and taking interest in this dependence and responding to it by its deeds. We have our degree of reality within the temporal series at least, and cannot treat the questions arising within temporal experience as unreal; the finite consciousnesses of human selves cannot be reduced to meaninglessness by setting in opposition to them the systematic structure of reality as a whole. Even the fact that my experience is also the experience of an infinite consciousness, if there be such, does not make it any the less mine. Ultimate reality may be free from all *discord* and yet embrace within it those aspects which we distinguish as the finite and infinite spheres, and may contain an infinite consciousness which distinguishes the realm of finite selves from itself as a not-self by the possession of a separate centre of consciousness, and in ultimate reality these aspects, which *we* struggle to comprehend as perfection and imperfection, may be somehow harmoniously related. But there would remain these two

inseparably related aspects to fall within the ultimate system of reality, and, as there cannot be a consciousness higher than the infinite, if we admit it, I should prefer not to talk of ultimate reality as consciously uniting these differences in any such way as would shatter the independence of the finite consciousness. For infinite consciousness has one undeniable characteristic, it is not the finite consciousness as such, and does not know things in the way that finite consciousness does. If it knows my difficulty, for example, it can never know it, as I occasionally do, in entire ignorance of its solution. I mean that the minus that the finite consciousness necessarily exhibits entirely alters its cognisance of what the infinite consciousness knows. I cannot help thinking that there is an argument here to prove the independent real existence of the finite and infinite consciousnesses. Certainly, unless we can prove that the finite consciousness is real, the problem of human history does not properly speaking exist for us. But if we regard conscious endeavour taking place in finite centres as a real factor in development, we may be dissatisfied with the mere establishment of an external causal connexion between the elements of historical process and tend to treat it from within as a purposive process acquiring new meaning as it unfolds itself. Professor Ward with fine insight and rare humanity has faced the problem, and its solution seems to him to involve the concepts of Theism and creation; and much the same conclusion is reached by a writer who is certain to be more spoken of before long, I mean Varisco. To his views, as less known than Dr. Ward's, I shall in conclusion refer. *En passant* I might note that Eucken, a thinker who has a large measure of popularity at present, would agree with those who regard meaning and worth as raised above time, but, as I understand him, not with those who would regard all meaning and worth as eternally realised. In the higher spiritual activities there is being fashioned an entirely new spiritual reality, the construction of which is the great object of historical progress.

The whole spiritual nature of man is raising itself a stage higher, and in him something more than human is being revealed. Spiritual life has to adapt itself to temporal conditions, stretches into time and forms a history there, but rises out of mere time to lasting truth and possession. Man cannot be immortal either as a mere creature of nature or with all his equipments, but only as regards his spiritual position; and he quotes, with approval, the saying of Augustine: "*Quod Deo non perit, sibi non perit.*" What is Eucken's precise relation to the older historic Idealism I have never been able to understand. But, although he attempts to give no representation of its exact mode of continuance, he defends what he calls the immortality of the human core that belongs to the spirit world and strives to avoid what he calls a pantheistic evaporation of the soul life.

To turn to Varisco and to take first his views on causality. If all possible relations were logical relations of ground to consequent, there could not be any real time or anything real happening in time. But causal relations are not reducible to the logical nexus or deducible from it in so far as they are due to the subject's spontaneous activity, which is a source of absolutely new beginnings. Every event in so far as due to the subject is not caused by any previous event, although it may be connected with others and fall within the sphere of logical relation. In the world, unity and multiplicity, necessity and contingency, are equally essential. They are all held together by the common fact that they all *are*. Being is our most general notion of which all other notions are determinations. If we suppose that the concrete realities of the phenomenal world are the only necessary determinations of Being, then among these we must put time and all that happens therein, and the universe would always be, by logically intrinsic necessity, the full self-realisation of Being. At any moment in its history it would have attained, through experiencing subjects, human societies, and, above all, philosophers,

to complete self-consciousness. In such a universe there would be partial and transient teleological systems, but no preservations of value for either individuals or societies. The value of all determinate particular realities would be measured by their degree of reality, and, in a sense, value would be neither lost, preserved, nor created. But we cannot ignore man's desire for the conservation of value he has consciously achieved or regard these as sufficiently condemned by calling them selfish and individualistic. Does experience reveal values which are not mere instruments of timeless necessity, and which, to be and remain values, require as an essential condition some permanence of personality? The subject would have no value of its own if its activity had not characteristics differing from those of physical reality, which in itself is indifferent, having no value except for the subject, who brings into existence a value of physical reality with respect to itself. The theoretic consciousness has no value except as allied with practical consciousness. We are always brought back to the primitive nature of the concept of value. Activity, to be of value, must be conscious and practical. The value of the subject is realised in feeling, feeling and theoretic consciousness being bound together in the unity of the subject and mutually modifying and conditioning each other. Consciousness and the spontaneity of each subject are developed in a field governed by law, but seeming to escape precise determination. The "I" only acquires full consciousness of its value in its relations with its fellows and the world. What is essential in these relations, many of which might be different without the "I" being substantially changed, stands in the structure of the whole, in its supreme law. It is then essential to the "I" to attain to a true conception of the whole. Can the determination of facts within the whole be absolutely rigorous, or is there in facts a non-logical indeterminate element, a spontaneity without which there would be no happening? Facts are connected in virtue of laws, but it is

yet to be proved that law suppresses spontaneity. Are such centres of variation illogical, or is it simply the case that their intrinsic spontaneity is only outside logic, not contrary to it? Is not knowledge itself a product of the spontaneity of the subject? Real happening as taking place in time cannot be reduced to a system of logical relations only, for these are outside time. Real happening presupposes centres that may be bound by logical relation, but are none the less endowed with independence, such that the varying of each centre is not merely the necessary logical consequence of a varying already in process. The universe exists necessarily, but may it not necessarily have determined itself into centres of spontaneous happening? Within the universe we seem to recognise an undoubtedly purposeful factor in conscious spontaneity. Can we suppose that in the unity of the whole there are implicit laws essentially final? It is important to decide, because life is developed in the bosom of a mechanism and depends upon it. The universe considered in its all-inclusive unity seems purposeless, its existence a perpetual varying of parts which leaves the whole fundamentally unchanged. Mobile equilibrium is not an end to which it tends, but a fixed characteristic invariably possessed. The spontaneity of every centre, if we consider it apart from its interference with those of other centres, is a principle of variation devoid of external purpose but not of value. The interference gives rise to complications and to the first external purposefulness, the avoidance of evil. Physical formations lack purpose and value; biological have evident purposefulness but in general slight intrinsic value; man as the simple subject has not much more value than that of the other higher animals nor of a different kind. But man is also a self-conscious subject, an "I," as such he proposes ends to himself clearly and makes towards them with a fully conscious activity. The end that is essential to him is to know the world and himself and to develop activity in accordance with such knowledge. This union of purposefulness and value is only realised as the "I" realises it, it is

not an accidental mechanical formation. It presupposes the activity and rationality of Being, but organises these in a peculiar unity of consciousness. The "I" can form and develop itself on our earth, but the earth will end. Will the immense work accomplished by mankind in order to arrive at cognition and mastery of self be lost for ever, and the evolution of life perhaps begin afresh without knowledge of, or benefit from, that course of evolution through which we have run? Being potentially contains everything, but potentiality is not actualisation. Suppress the individual unities of consciousness and the happening which is a consequence of them, and contrast, harmony, action, value, all vanish. Certainly my personal value is the value of *the* person and not of a particular person myself. But, to conclude from this that persons *qua* persons can be reduced to one would be no more reasonable than to assert that a cube has only one face because every face of the cube is a face of cube, and that this is a characteristic common to each. Every person to be constituted requires the particular of spontaneity, of distinct consciousness with a partially distinct content, and the universal of law. The absolute continuity of development, the permanence of values, cannot be preserved in any way, if concrete objects are the only determinations of Being, if the potential value of Being becomes actual only in the individual persons; for these, being subject to the bonds of a necessary and therefore non-final causality, can only be transitory, each individually and their groups collectively. To preserve the permanence of the values we must admit that causal necessity is subordinate to an intentional finality, admit, that is, that Being is endowed with determinate forms other than concrete objects and produces concrete objects in itself, not through the necessity of self-determination, but to attain an end, to actualise a pre-arranged design. In this case the concept of Being transforms itself into that of God. It remains to be known if the Divine exists only as immanent in things, or whether it is not a unity of consciousness

which would be transcendent with respect to the individual consciousness.

No one is content with the immediate present. No one would rejoice at the birth of a son if he foresaw that in a few days both son and mother would be dead. The present only has value in relation to the future, about which man cannot help asking. And yet he asks vaguely and contents himself with vague answers; but, we must insist, if values are not permanent they do not exist. A reality in which values arise must possess intrinsic value, but a reality in which the demand of the "I" to attain and conserve value was intrinsically unable to be satisfied, which could not find its climax in a lasting harmony of conscious values, would be a failure. Personal value does not vanish entirely if we do not admit its permanence, but its true characteristic of value implies its permanence. So far Varisco.

Evidently, then, history presents philosophy with problems which cannot simply be ignored, problems connected with such concepts as efficient and final cause, finite personality, value, and with questions as to the reality of time, the nature of real possibilities, the relation of mind and body, and the relation of mechanism and teleology. The contest is ultimately between spontaneity or individual activity and the scientific concept of inert matter as a constant quantity. We picture, as Dr. Ward says, the course of history as continually foreclosing genuine alternatives and the course of nature as throughout completely determined, but, if you include the doings of men as well as the motions of matter under the phrase uniformity of nature, then you assign to all determination the necessity of science. The problem of free will *versus* determinism Mr. Russell considers mainly illusory, but he admits that in part it is not yet capable of being decisively solved. The fact that the universe is mechanical, he says, has no bearing whatever on the question whether it is teleological, and yet he had said previously that "the world which science presents for

our belief is purposeless and void of meaning," and that man was but the outcome of accidental collocations of atoms and destined to extinction in the vast death of the solar system. I submit that, if the universe is this sort of mechanism, the fact has very considerable bearing on the question whether or not it is teleological. Of course, as Mr. Russell says, a mechanical system of the world might realise purpose, and the question whether or how far our actual world is teleological cannot therefore be settled by proving that it is mechanical, and the desire that it should be teleological is no ground for wishing it to be not mechanical. Mr. Russell says there is one sense, and a very important one, in which the future is determined quite independently of scientific laws, viz., the sense that it will be what it will be. I have no difficulty in believing that the present may be explained by the past, just as it may explain the past and the future, because the things are all related. But there is no formula by means of which the future of our volitional experience can be exhibited and calculated as a function of the past. We can do something of the kind regarding physics, and all who regard our conscious experience as determined in a sense which seems to many people objectionable mean by that that it belongs to the material deterministic system. Mr. Russell, however, admits that it is quite possible that some volitions, as well as some other things, are not determined except in the sense in which everything must be determined, that is, cannot be other than it is, a mere application of the law of contradiction. There is, he goes on, the question whether volitions form part of a system with purely material determinants, that is, whether there are laws which, given certain material data, make all volitions functions of these data. It may be, Mr. Russell says, that the same system which is susceptible of material determinants is also susceptible of mental determinants; thus a mechanical system may be determined by sets of volitions as well as by sets of material facts. And he concludes that the reasons which make people

dislike the view that volitions are mechanically determined are fallacious. Determinism does not imply that actions are necessary in the sense that they will be performed however much the agent may wish to do otherwise, and even if volitions are mechanically determined, there is, he considers, no reason for denying freedom in the sense revealed by introspection or for supposing that mechanical events are not determined by volitions. Perhaps not, but, as Mr. Russell has said, the question is not yet capable of being decisively solved, and some of us feel the greatest difficulty not only in seeing how it ever can be the case that spiritual wholeness results from processes such as the inorganic processes known in physics and chemistry, but also how any material processes in the brain and nervous system can even symbolically represent what really happens in consciousness. As Dr. Driesch says, "In action nothing is fixed in the sense of what fixation means in anything like a machine. In acting there may be no change in the specificity of the reaction when the stimulus is altered fundamentally, and again there may be the most fundamental difference in the reaction when there is almost no change in the stimulus." And this he considers works against the theory that the psychical phenomena are but the other side of an unbroken causal series of the mechanical type. "The relation of various objects to a single subject has," he says, "nothing similar in the mechanical world, and the power of the subject to think and to imagine seems to lack possibility of mechanical parallel, while psychical progress seems to mean the formation of something new." "The so-called material continuity of life may," Dr. Driesch says, "mean simply that there are certain areas of matter, certain material systems embracing an enormous number of possibilities of happening in the form of differences of potential that are permanently under the control of non-mechanical agents. By their regulatory, relaxing action in a system in which an enormous variety of possible events had been suspended by them, it

may happen that an equal distribution of possibilities is transformed into an unequal distribution of actual effects. Nature would be that which satisfies the postulates of a rational theory of becoming, and which behaves at the same time as if it were independent and self-persistent in itself. If in a given natural system an increase of the degree of manifoldness, if, that is, the number of different kinds of relations among the 'things' present, is greater in the second state than in the first, and if we know that this increase has not been prepared in any way inside or outside the system in space, then we are obliged to introduce non-spatial factors of becoming. We give to this type of possible becoming the name of unifying causality. The word 'teleological' may be used whenever a result that is a whole is reached by a succession of various steps or phases of becoming, each of which is subject to unifying causality." There are, Dr. Driesch considers, signs of wholeness in history, changes which we regard as progress, the bringing forth of spiritual values; while the sort of mutual adaptations discussed by Professor Henderson in the *Fitness of the Environment*, such as that between water and carbonic acid, on the one side, and life on the other, seem to point towards a certain wholeness or teleology of the universe in general, including organic and non-organic nature. "Some speak," says Dr. Driesch, "of the union of universal teleology and mechanism, meaning by this phrase that the universe would appear as one ordered whole and as a mechanical system at the same time, if only we had a sufficient knowledge of spatial reality, which is supposed to furnish us with a symbol of everything that there is. It would be strange if there were one order with regard to spatial reality and yet we could discover nothing of it, and there is not this ordered wholeness in spatial givenness, and, if there were ordered wholeness in spatiality, we could not speak of mechanism, and from mechanism, in a true sense, nothing but geometrical wholeness can arise, which can surely not be the other side or symbol

of what biology, history, psychology and ethics lead us to attribute to reality."

Are we driven to believe that our difficulties in regarding Beings as having intrinsic creative spontaneity and not being merely logically automatic is due merely to ineffectual thinking? Are there intrinsic values that are not merely forms of logical necessity, and that may be, and perhaps only could be, preserved through the conservation of persons, or are these questions merely fanciful? I have said little to enforce the significance of feeling, because that is something to which philosophical reflexion is supposed to be indifferent. But we cannot decide the ultimate essence of value without deciding the significance we are to give to feeling. The distinction of selves is not overcome, even in our highest emotional experience, although that may give rise to osmotic processes among selves, and I question if even the most rapt mystic would be satisfied, if the value he realises in his love of God were preserved as another's and not as his experience. Again, if I am told that to require happiness in addition to wholeness is to show that I am still unconscious of the true nature of personal worth, why, if I believe happiness to be the expression of the harmony of myself with other selves and with the world as a whole, should the wish for it be regarded as impairing the value of personal worth? In history we lay our count with nothing short of the whole world. We have little evidence to show that we can rely upon the goodness of the world, but we cannot afford to be indifferent to the question, and if to the final end of the world those elements that we recognise in our experience as happiness are indifferent, then by any criterion that man should apply the world is not merely beyond good and evil, it is positively bad, and the fate that it has bound round our feet no light misfortune. But the world has produced those highest emotional experiences which alone have rendered tolerable for us much else that it has produced, and since our experience is

in time, it is no unreasonable desire on man's part that those experiences most expressive of eternal value which are at the same time accompanied by a happy acquiescence in his experience should fill more and more of the time he has to live, and not only his time but that of all other subjects capable of experiencing values. Without the existence of that great scale passing from simple human happiness to supreme exaltation of soul, I do not believe we should ever have spoken of value as something actually existing in the world; but I must not be taken as meaning that emotional coherences can be standardised as apart from rational.

XI.—FREEDOM.

By S. ALEXANDER.

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1. *Enjoyed Determination*.—The proposition which it is the object of this paper to maintain is that Freedom is enjoyed determination; and that it is found wherever the distinction of enjoyment and contemplation is found; so that human freedom is but a particular case of something much more general. I mean by enjoyed determination that species of determination in which both the determiner and the determined, the cause and the effect, are enjoyed. Contemplated determination is that species in which both events are contemplated, and it comprehends all instances of causal relation in the non-mental world, in so far as these are treated as merely objects of contemplation to some mind, and not regarded as themselves subjects of enjoyment, in an extended application of that last term. There is a third species to be mentioned, where one of the members of the relation of determination is contemplated and the other enjoyed. One variety of this is illustrated by the determination of bodily movement by a mental state, as when anger determines a blow (I do not now mean the perception of the blow). The other variety is the determination of a mental state by a physical event, as when the action of light gives me the enjoyment of vision, or a blow

on my body makes me feel it. In these last cases I enjoy my mental process as the effect of the physical event.* Since in this third species, though the other member of the relation is contemplated, I do enjoy being determined or determining, it is perhaps better to call that kind of determination in which both members are enjoyed, not simply enjoyed determination, but determination in enjoyment.

The proposition that freedom is determination in enjoyment or enjoyed determination, in the special sense assigned to those words, is of the same sort as the familiar doctrine that freedom is self-determination, though it is more general. All that it does is to translate self-determination into other terms. If this procedure helps to make clearer what self-determination is, while at the same time it verifies the significance of the distinction of the enjoyed and the contemplated, it will be justified, even if it means harping on a formula which to some persons may, coming from me, seem tedious.

Before I attempt the speculative questions which it raises, let me illustrate its meaning and its reasonableness from common experiences of the occasions when we feel ourselves free, or unfree. Begin with the case last mentioned. We are free to open our eyes or not, or to direct them anywhere, but we are not free to see or not. We are passive or under compulsion in respect of our sensations. At the other extreme, in willing freely, we enjoy the determination of one mental state by another. A passion of anger induces the idea of striking and this idea passes into realisation. As Mr. Bradley says, an idea realises itself. The consciousness of willing is the enjoyment of the passage of an idea into fact, and it was irrelevant of Hume to object that we do not know a great many of the intermediate neural processes, for the direct awareness of willing is not the same thing as knowledge about willing. I will to suppress a thought, and the intention to do so is enjoyed

* *Cp.* "On Relations, and in Particular the Cognitive Relation, Section 7, in *Mind*, N.S., vol. xxi (1912), pp. 323 ff.

as leading to the suppression of the thought. The real nature of willing is clearer from such cases of internal willing than from those of willing an external action. But it is clear in these cases too. I will to strike a man, and the idea of striking him is realised in the last mental state which is effective and issues in the actual striking. In the continuously enjoyed passage from motive to idea of action and thence to this last effective mental act I enjoy myself as willing and as willing freely. This continuous enjoyment is prolonged into the perception of the blow. The blow itself is indeed a physical event and contemplated, and in respect of it we have one of those cases of mixed determination which form the third category described above. But while I should say undoubtedly that the blow was caused by me, it is only in so far as I perceive the blow (by kinæsthetic sensations and perception of the results of the blow) that I am aware of myself as being free in the mere act of striking. If I were anæsthetic and unaware of the effected act I should so far as that part of the situation is concerned not be aware of having struck freely. As it is, I am aware of the perception of the blow as determined by my previous mental states, and I feel myself free from one end of the self-determined process to the other.

Willing is not the only kind of action or condition in which we may feel free. For example, we have this consciousness in instinctive processes, where one mental state leads on to another; or in what we call the free play of the imagination, one fancy suggesting another, where the word free does not merely mean the absence of interference from thought or the higher self. In the same way we experience unfreedom not only in antithesis to freedom in willing, but otherwise. The most obvious case of unfreedom of will is that of action under physical compulsion, as when, to borrow a well-known instance of Jowett's, we are dragged out of the room by a policeman instead of going out by ourselves. Our action is determined not by an enjoyment but by a physical cause, and the case is on the

same level as the passive reception of sensations. Here the will might have come into play and did not. But there are cases which do not concern the will. An unaccountable outburst of anger, or a mental obsession, makes us feel unfree, because of the absence of any determining mental state. There are also conditions in which we feel partly free and partly constrained. Thus a train of instinctive or perceptual action is free so far as it follows the line of mental predetermination, but it is also guided by external objects to which we feel ourselves compelled to adapt ourselves, and are, so far, unfree. Even in the free play of imagination we are continually subject to constraint by the objects created by our fancies: "we depend on the creatures we have made"; and, so far, imagination is like perception. As we grow, we learn that our imagination is most truly free and most our own, when it most conforms to verisimilitude—the lesson which underlies Plato's use of the imagination in education; just as in conduct we find as we grow that our highest freedom consists in recognition and welcoming of lawful restraint, so that from the mere action of our selves we act within the limits of general human advantage. So, again, in willing we have the mixed experience of freedom and unfreedom where we yield to threats or *force majeure* of any sort and do actions we should not under normal circumstances have willed. We feel ourselves unfree because of the external compulsion, but free so far as the act issues from our intention, however formed. In all these cases the experience of unfreedom is compatible with responsibility, and the two questions, of consciousness of freedom, and responsibility, are to be distinguished. A drunkard may do in a fit of drunkenness an act of which he is unaware or, at any rate, of whose meaning he is unaware; and yet he may be responsible. Even an obsession, or an outburst of fury, may leave a man responsible though he feels himself the victim. Responsibility depends on whether the man's own previous conduct has contributed to his enslave-

ment. On the other hand, there may be cases where, as Mr. Bradley has pointed out,* the passive compulsion may be of such a nature as to paralyse the will and destroy the conditions of willing; and the person, for all his remorse, may really be unfree and not responsible.

Certain facts which seem at first sight contradictory to our general statement that we feel free or unfree according as a mental state is or is not enjoyed as determined by a prior mental state or the outcome of it,† confirm the statement on examination. Thus in the play of fancy we feel free; but relatively to this a mere routine association of ideas seems, as we say, mechanical. Sometimes we feel ourselves the slaves of such routine habits; as in Locke's case of the young man who could only dance in a lumber room because it was in a lumber room he had learned dancing; or in James's case of a man who, having gone to his room to change his clothes, went to bed by force of habit. The reason why such processes seem mechanical, though the person may not at the time be aware of any compulsion, is the want of intrinsic connection between the actions. One mental state is succeeded by another, but the connection is an accidental one, due to the external conditions. I have experienced A and B together, and so the apprehension of A leads on to the apprehension of B, but there is no development of B from A, so that correspondingly the one mental state should be an outcome of the other. Thus so far the feeling of determination of one enjoyment by the other is missing. In proportion as this occurs will be the feeling of unfreedom, unlike the case of a spontaneous process of reflection where one idea is felt to be the outgrowth from another, and not a mere artificial sequence on it.

* In *Ethical Studies*, Essay I, Note A.

† Compare Mr. Stout's *Analytical Psychology*, vol. i, bk. ii, c. i, "Concept of Mental Activity," esp. p. 148. "Mental activity exists when and so far as process in consciousness is the direct outcome of previous process in consciousness." I am of course greatly indebted to this chapter in the above.

Another apparently exceptional case is that of the sudden uprush of new mental states which may mean giving a new bent to a person's life or a new direction to his thinking. For example in conversion or in inspiration, where a new idea comes into the mind like those unaccountable outbursts of passion mentioned before. From one side these cases confirm our statement. For the person himself regards these sudden changes as coming to him from elsewhere, for example from God, and imposed upon him. Thus I quote at the foot what is reported of George Eliot by her biographer.* The humility of persons under such circumstances of inspiration arises from the feeling that their mental condition is not due to themselves. It may happen indeed that a person is conscious, in these cases, of intense personal initiative; but this is because he disregards the passive or mentally uncaused uprush of the exciting emotion and is vividly attentive to the passage of the emotion, once it has possessed him, into the action he adopts. On the other hand these facts are often taken to suggest that whatever a man's conduct or thinking may have been he still has power to change; and so regarded they are treated as evidence not of unfreedom but of freedom. But this must I think be regarded not as a first-hand experience on the part of the persons in question, but as an interpretation of that experience or a theory about it. So far as the direct experience goes it is in favour of passivity. What is meant is that there must be something in the person to

* "She told me that in all that she considered her best writing there was a 'not-herself' which took possession of her, and that she felt her own personality to be merely the instrument through which the spirit, as it were, was acting. Particularly she dwelt on this with regard to the scene in *Middlemarch*, between Dorothea and Rosamond, saying that although she always knew they had sooner or later to come together she kept the idea resolutely out of her mind until Dorothea was in Rosamond's drawing room. Then abandoning herself to the inspiration of the moment, she wrote the whole scene exactly as it stands, without alteration or erasure, in an intense state of excitement and agitation, feeling herself entirely possessed by the feelings of the two women" (*Life and Letters*, by J. W. Cross, vol. iii, p. 424).

account for such revolutions. But it is easy enough by a counter theory to urge that these unexplained resources are to be found in elements of the man's whole nature, including his body, which have not yet come within enjoyment. In other words the outbreak is determined by contemplated conditions and the experience of unfreedom, which is what the person actually has, is justified.

But the best support of our proposition is to be found in comparing lower and higher experiences of freedom. The more we feel ourselves determined by our own enjoyed mental states the keener the consciousness of freedom. Hence freedom in a special sense belongs to the will. For in willing not only does the idea of a wanted object realise itself, but in that process it is supported by large masses of ideas and dispositions which constitute interests, and in the end it is supported by the whole self, and freedom is eminently the consciousness of the whole or large masses of the self consenting to the adoption of an object. Here eminently we have determination in enjoyment. Relatively to such action of the whole self, isolated streams of enjoyed determination seem less free, mechanical. Moreover, experience shows us that such complete determination by the personality on all its sides is more attainable in the good man than the bad one. For goodness is essentially the balanced development of all sides of human nature, its personal and its social elements all included; and though the bad man may exhibit a high degree of organisation under some mastering impulse, he in general leaves certain sides of his nature undeveloped or else is wanting in certain necessary elements of character. Hence the distinction of two senses of freedom, the one in which it means merely freedom from external determination, that is it means determination by the man himself; the other in which it is equivalent to goodness. In the first sense the bad and the good are both free; in the second sense only he whose self is an exhibition of law is free, and badness is the slave of its

passions. Benjamin Franklin had the idea in earlier life of forming a sect of "virtuous and good men of all nations" which he proposed to call the "Society of the Free and Easy"*—a title which we should hardly use with the present meaning of those words. Thus as the outcome of examining higher senses of freedom it appears that we are most eminently free when we most enjoy determination by our mental states and dispositions.

2. *Freedom and Time*.—If then I have not mistaken the deliverances of our experience of being free, freedom is nothing but determination or causality in enjoyment and in no wise different from the familiar causality of the physical world, causality as contemplated. We are most conscious of being free where the consciousness of determination by other enjoyments is fullest, where our whole personality is the enjoyed determinant. But we must not, because we are then most acutely aware of freedom, seek for the criterion of freedom in determination by the whole. This is what is done by M. Bergson. "In short," he says, "we are free when our acts spring from our whole personality, when they express it, when they have that indefinable resemblance to it which one sometimes finds between an artist and his work.† The outward manifestation of this inner state will be just what is called a free act, since the self alone will have been the author of it and since it will express the whole of the self."‡ At the same

* Franklin's explanation is: "free, as being by the general practice and habit of the virtues free from the dominion of vice; and particularly by the practice of industry and frugality, free from debt, which exposes a man to confinement and a species of slavery to his creditors" (*Autobiography*, ed. Bigelow, New York, 1909, p. 207). The phrase "free and easy" was generally used at that time to mean well-bred and elegant ease of manner, and it implied merit. "Lady Darnford also made me a fine compliment," writes Pamela on "Sunday the 4th day of my happiness," "and said I looked freer and easier every time she saw me" (Everyman's edition of *Pamela*, vol. i, p. 344).

† *Time and Free Will*, p. 172 (*Données*, ed. 6, 1908, p. 132).

‡ *Loc. cit.*, p. 165 (*Données*, p. 127).

time he allows that such freedom admits of degrees: there may be parasitic selves. But "the act will be so much the freer the more the dynamic series with which it is connected tends to be the fundamental self."*

Now superficially it is sufficient, in answer to such attempt to find freedom in response by the whole mind, to observe that totality of response would not distinguish freedom from the response of a physical body to external action; for here, too, we cannot disconnect the part from the whole, and the reaction of a solid body on an impact is reaction by the whole body.

But a much graver issue is raised by this version of freedom,—whether the notion of causality in the sense of physical causality is applicable to mental action at all. To M. Bergson it seems that such application is to mistake the essential character of time and memory, is part of the habit of spreading out time in space, whereas in mind our states penetrate each other and the past is contained in the present. Strictly speaking, for him physical causality implies psychological action, or is to be interpreted psychologically. In a certain sense† I should agree with this last proposition, but I am unable to accept his general view of time and memory and penetration. I do not propose, however, to examine M. Bergson's doctrine as such; which would be too complex a task. In one respect it presents a special difficulty, for a large part of it is determined by antagonism to the form of associationism which was current at the time. Now two things have happened which have put a new face on the understanding

* *Loc. cit.*, p. 167 (*Données*, p. 128).

† See later, Section 3, p. 340. For this reason I may seem to be irrelevant, at any rate in respect of M. Bergson, when I urge that the various criteria of freedom which are assigned do not distinguish mental and physical existence. But the truth is that I am concerned to maintain that mental action is of the same character as physical action, not merely when physical action is viewed from the inside but as viewed from the outside; because I hold mind to be intrinsically spatial.

of mental process. The agglutinative or associationist view of mind has been replaced, in this country at least, by the notion of mental continuity; and, secondly, association has been shown to be in fact itself an illustration of the working of mind in continuous wholes, and to stand for the merely routine operation of such general principle of mental life. It by no means follows that in order to dethrone associationism we must go to M. Bergson's extremes. It may well be the case that mental states are continuous, without recourse to the doctrine that the time which belongs to them is different from the ordinary time employed in the mathematical and physical sciences. I do not propose to attempt these questions directly in this paper. But I shall try to show, first that there is nothing in memory which distinguishes mind from physical things fundamentally. And secondly I shall try to show in what sense causality is applicable to mental process and why.

First, the alleged difference between mind and physical things that in mind the past penetrates the present. In one sense of the terms, namely that the past leaves its traces in the present, the proposition is obviously true, and indeed a truism. But the notion of penetration implies more than this, namely that the past is contained in the present in a way which distinguishes time from space, for no one could say that one point of space is contained in another. Now this I believe to be founded on a mistaken description of the experience of time, which is worth examining not merely with reference to M. Bergson's doctrine, but independently. For it is commonly held that in order to have experience of the past, that past must be somehow contained in the present experience. This is in keeping with the notion of the specious present: the notion that the present is not a point, or more accurately a knife-edge (for in any case the present is always multiple and not single), but a broad present; broad, that is, in time; stretching towards the past and the future. This notion is of course useful, if it only means that practically what we call the

present is always broad in time. It is also valid if it means that we never apprehend the present moment *by itself*, but continuity with the past and future, that what we apprehend always is a little bit of duration. But it might be understood to mean that the actually experienced present always includes not only the real present but also the real immediately past and future: that duration is in fact experienced independently of its succession, as if my immediate past were enjoyed by me in the present. Such an interpretation must be I think abandoned and with it too the belief that any experience whatever of the past, whether immediate or remote, is somehow present. I put aside the case of the remembered object as distinct from the act of memory. It is clear that the remembered object is not present but past. But I am dealing specially with the remembered enjoyment. And it appears to me that in remembering we are not only contemplating the past object but enjoying ourselves as past. In other words the act of remembering as we experience it is the way in which we enjoy our past state of mind. The opposite belief is due to confusion of the experience as it is experienced with the same experience as it may present itself to a looker-on, say to an angel or to God, and is an example of what James calls the psychologist's fallacy. The looker-on sees that the act of remembering is going on simultaneously with the perceptual act which is the point of reference constituting the present. But for the experiencer himself the act of perceiving is enjoyed as present.

* In *British Journal of Psychology*, iv, 1911, "Conational Psychology," Section 9, note, pp. 260—2, I have written on the memory of oneself being concerned with trying to explain what is meant by remembering. But although I there speak of enjoying a past state of myself with the mark of the past on it, I do not think that I understood clearly at the time what I am endeavouring to say now. So far as some of the expressions there used might imply that a remembered condition of myself was enjoyed in the present, I now think them erroneous.

On the value of the distinction between the present as a knife-edge and as a saddle-back, see Stout, *Manual*, ed. 3, p. 522 f; and Sir O. Lodge, *Modern Problems*, ii, "The Nature of Time."

as the point of reference, and for him the remembering is not present but is the enjoyment of the past state of mind in which he apprehended the remembered object. Thus, just as the remembered object is contemplated as past, so is the experience of it enjoyed as past in the form of the act of remembering. Hence, just as it is untrue to say that the remembered object is merely referred to the past, though its idea is present, so in like manner it is untrue to say that for the enjoyment of the experiencer his remembering is merely referred to his past. Both object remembered and state remembered are immediately experienced as past, the one in contemplation, the other in enjoyment. Neither the one nor the other is a "construction" from the present, as some extreme doctrines imply. If I do not try to get outside myself, I enjoy my past state as past; and I am not aware that it is in a certain sense, that is for an outsider, contemporaneous with the perception which marks the experienced present.* (*See postscript*, p. 353.)

A precisely corresponding account, it may be noticed in passing, applies to the future. As in memory we enjoy the past as past, so in expectation we enjoy the future as future. The expectation is a present event to the onlooker, but to the experient himself it is future. This is, in truth, the only sense

* I have not thus supposed with Mr. Russell, in his paper on "The Philosophy of Bergson" (*Monist*, 1912, and published separately for the "Heretics," Cambridge, 1914), that M. Bergson has confused the act of remembering with the object remembered. My point is rather that the act of remembering is for the rememberer himself not present, but past. I may refer to a paper of Miss Costelloe in criticism of Mr. Russell (*Monist*, Jan., 1914), which I have seen since writing this paper, and which seems to me to help much towards an understanding of M. Bergson's actual meaning. She writes: "The truth seems to be that Bergson is so much interested in his discovery that the past acts in the present, that he forgets that it is still nevertheless past. And yet that really is the interesting point. It is just because it is the past and not simultaneous with our present consciousness that the fact of its acting on that consciousness is so interesting." This seems to me to be much the same as I am saying in the text; but I may be mistaken.

in which future can be experienced as future. When the expected event occurs, it is no longer future, but present.

Two things need to be added :—(1) For the outsider who can contemplate our experience, it is true that the remembering is a present state of the person's mind. This gives rise to difficulties which I will comment on later.* (2) For the experient himself, the past does leave traces in the present, and these effects of the past are conserved in the present and modify the present mental behaviour as enjoyed. The simplest case of this is found in perception, where the present sensory enjoyments are qualified by ideal elements, which are the traces of past experience, and which are experienced in the total present act of perceiving, that is, of having a sensory experience with a meaning. These ideal elements are not enjoyed as either present, past, or future, but they have their effect as a component of the total present reaction. In general we may have ideas which have no determinate place in time at all.

Now let us note that the state of affairs thus described is not peculiar to mind but is found in physical, to say nothing of organic, bodies. A storm blows and a stick or a chimney is inclined out of the straight. The ground subsides and the tower at Pisa leans. The storm and the impact it makes on the body in question belong to the past of the body. But the effect of the past subsists in the altered inclination, and this inclination is a factor of the body's present response to a fresh shock. The ground subsides further and the tower falls. As the old nursery song says: "When the bough bends the cradle will rock, when the bough breaks the cradle will fall." Such is the spectacle presented to the outsider, to the contemplating mind. But now consider what happens to the body, the tower, for instance, *for itself*. Extend the sense of enjoyment and consider the enjoyment of the tower. Supposing it

* See p. 336.

could have something which might be called memory, the inclination which it possesses would not be enjoyed by it in the present but would be the memory of the dislocation which happened in the past. This extension of memory is in perfect keeping with Prof. E. Hering's famous paper on memory. If we are not justified even in the extended usage of memory in attributing memory to the tower, it would still be true that the inclination which the observer sees in it would still not be enjoyed by the tower as its present, however much it operates as a component factor, in the present of the tower, of the tower's response to a fresh dislocating force.

Thus it is not true that the past is contained in the present in the same sense as the present is enjoyed as present. And, secondly, in the same sense as the past is continued into the present, namely, in its effects, the same account applies to inanimate and still more to animate things, and there is no distinction in this respect between mind and physical things on which to found a theory of freedom.

That the proposition, that in remembering we enjoy our past and that we do not experience it as a present activity of our minds, is in some respects strange I should not deny. But if the experience is rightly stated, it must be accepted for what it is worth. We need not be moved by a *priori* objections. Thus it may be urged that in treating time as real and the past as experienced in contemplation or in enjoyment, we are committing ourselves to the absurdity that the past really exists. But it is only when existence is taken here to mean actual present existence that the reality of the past seems absurd. If the past is real, its reality lies in its being past and not in present existence. On the contrary, it is facts such as the above, if they are rightly stated, which are some of the data that we must use in order, without preconceptions, to obtain an idea of the nature of time, including the past. Whatever ultimate judgment may be pronounced on M. Bergson's notion of time, he has the signal merit of having dared to take the

reality of time seriously. My only regret is that he should have depreciated space.

I come now to the difficulty left over,* which illustrates the complexities of time, especially in its relation to space. I mean the difficulty that remembering which is enjoyed by the rememberer himself as his past is for the onlooking being *also* a present act, that is contemporaneous with the enjoyed present of the person contemplated. Even when I myself turn my attention to the underlying cerebral process, for it is only so that I can in any way contemplate myself, I may realise that this process is contemporaneous with my present enjoyment; and so I am misled into thinking that I enjoy the act of remembering as present. But to God, besides being known as enjoyed by me in the past, the mental act belongs also to the same moment of time as my present. Now I have only to note this fact as another datum for the study of time. It is no part of my purpose here to enter into fundamentals. But what the fact appears to me to mean is that time may come back to its old place. My past experience occupied a certain place in my brain. When I remember my past that same tract of my brain is occupied. The enjoyment of this occupation is for me enjoyment of my past. The same place is now occupied by what from the outsider's point of view is a new moment of time identical with the enjoyed present of the mind observed. We have arrived at the difficult question of the relation of time to the space which occupies it or which it occupies, and I must leave the problem there.

3. *Causality in Mind*.—There remains the second problem of whether the notion of causality is applicable to mind at all, and in what sense. To me the answer appears to be yes, and that it is applicable in the same sense to the mind as to physical things. Clearly in order to maintain the first half of this answer, it is necessary to have some idea of the second half. The problem

* P. 334.

is complicated in two ways. It is thought that if mental action is causally determined it must be capable of prediction. But this raises a different set of considerations, which I shall speak of later in the paper. The other complication arises from the doubts that have been raised as to whether the idea of causality, physical or mental, is indispensable, or can be stated in such a way as to correspond with the procedure of science. The latest unfavourable treatment of causality is the important paper of Mr. Russell in this Society's *Proceedings* of last year.* Some statement of what I take causation to be is unavoidable. But I do not propose to do more than this. I do not propose to discuss the validity of causation in general. Partly my reason is that such discussion is not necessary for my purpose here, and would carry me too far afield. But partly I am not as yet prepared to discuss it. Causality seems to my mind, like all the other fundamental categories of thought, to be essentially entangled in the whole inquiry into the nature of time and more particularly of its relation to space.

One preliminary obstacle, however, may be removed. Causality does not mean primarily that the same causes are followed by the same effects. It is not a matter of repetition. Unless causes were repeated it would be infinitely difficult to discover causal laws. But that causes and effects are repeated does but signify that causal relations like other things in nature may be universal. Causal relations are repeated, but the repetition of them has nothing to do with what precisely makes causality, but has a deeper ground. I need not labour the point. Mr. Venn has explained that there is a great difference between the proposition that nature if she repeats herself acts uniformly, and the proposition that nature does as a matter of fact repeat herself.† Invariability (or unvariedness) in sequence is a

* "On the Notion of Cause," vol. xiii (1912-13). Mr. Broad's book *Perception, Physics and Reality*, with a discussion of Causality in ch. ii, appears while I am correcting this proof.

† *Empirical Logic*, ch. iii, pp. 96-7 (1889).

symptom or consequence of the causal relation, and not its essence. Nor as a matter of method is it comparable in scientific importance as a means of discovery with the negative test that the removal of the cause means the removal of the effect. But the confusion of causality with unvaried succession is an evil legacy from the spell which was cast by Hume upon philosophy.

In the next place, we are not so much concerned with causes and effects as with relation between them, the situation into which they enter. Any statement of the cause and the effect contains irrelevant elements. And the aim of scientific method is so to limit and define cause and effect as to "purge them of irrelevancy,"* so that each of them shall contain just so much as fits it to enter into the relation of causality and so that the relation shall be universal, which means that if one term is repeated the other also is. Now this relation I take to be primarily a relation of continuous transition in time from one event to the other. Causation is transformation; the passage of one group of motions into another group. For I assume that in the end any event is expressible as a group (or configuration) of motions. When the ball strikes my head, the motion of impact is continuous with (that is all I mean by transformed into) and replaced by certain motions in my tissues and nerves which ultimately are a bruise and a headache. Causal relations are specific transitions taking place within limited systems. The ball and my body form a single system, and a group of movements in one part of the system is replaced continuously (for they are modifications in the end of the continuum of space and time) by a group of movements in another part.

Two implications of this statement need to be noted. (1) Thus described, the fact of causality might give and has given rise to the notion that cause and effect are identical. But they are two configurations of motion which are distinct, and if

* Mr. Bosanquet's phrase.

they are identical that is an accident. The rain which wets the ground is, to give an example of Hegel's, the same rain as is in the wet ground. But this is only a special case. And even here the raindrops are differently distributed in the ground and when they fall. There is, perhaps, no case in which the motion which ensues in time from the first group of motions is not altered in character or detail. Obviously in the general case the causal group touches off a pre-existing group and alters it, as in the case I have taken of a blow on the body. (2) The causal relation is a transition in time, from before to after; and to urge, as has been done, that cause and effect are simultaneous is like urging that the two halves of a line are identical because they share a limiting point. Just because the transition is a continuous one, the demarcation of the cause from the effect must have in it something arbitrary. Further since the relation is one of before and after, we cannot say, as has been proposed, that the future, in the sense of the actual future event, is a cause of the present,* though there is a sense in which the

* This is an important and difficult matter, which I can treat only briefly. The contemplated series calls for little remark. The past event A causes the present event B; and the present B causes the future event C. We cannot say that C causes B as if the future drew the present to itself. On the other hand, in enjoyment, the future is causal. For example, in willing, the expectation of something leads on, in my mind, to the actual fruition of it, but, as we have seen before, the expectation or forecast is the future as future; it is not the future as an actual realised event which is going to be, but is not yet: it is the idea of the future. This is the only way in which we can enjoy the future as future. And there is no contradiction here with the statement that causation proceeds from before to after. For the future as future (that is not as realised, in which case it is present) precedes its own realisation or conversion into a present. If the future did not come before its realisation it would not be future. Thus when I am determined by my future as future, that is by the expectation of a distant present, the transition is still from before to after, and the future as causal drives like all causality *a tergo* and does not draw *a fronte*. When it is said, as it sometimes is said, that the future determines the present, just as much as the past does, the future is taken to mean the actual distant event, and the proposition is then untrue and falsifies the nature of time.

present may be said to depend on the future as well as on the past. Further, since time is real and involved in the constitution of the universe, it may be gravely questioned whether the relation of ground and consequent, which some logicians set up as the scientific ideal, is not in truth an abstraction from the richness of concrete relationships which involve time. At any rate, if we regard the causal relation as being defective, as compared with ground and consequent, because of its introduction of time, we have before us the warning of Spinoza's helplessness in dealing with the causal relation when he conceived cause on the analogy of geometrical ground.

With this conception of causality, brief and vague as has been the exposition of it, we can at once see that it is applicable in the same sense to mind as to physical things. Within the mental system one enjoyment develops, in the experience of it, into another in time; and the only difficulties in the application are, first, to distinguish causal transition from more or less accidental connections; and second, to define what are the essentially relevant features in the causal transitions. We may then admit that physical causation contains a psychological feature, but only in the same sense as psychological causation contains a physical feature.* Both are, in fact, instances in varying material of one and the same type of relation. It is true that the experience of psychical causation is more direct, because we enjoy or live it, while we only contemplate physical causation. But this is not to say the psychical causation is more fundamental than the other. Still less does it mean that we construe physical causation on the analogy of psychical or, as it were, project ourselves into things in their causal actions. Only we have in ourselves, and most of all in the experienced transitions which constitute volitions, the most glaring instances of a relation which is common to both physical and psychical. In this respect causation is like all categorial relations and

* See before, Section 2, p. 330.

characters of the world that they belong both to the contemplated and the enjoyed; though I would not be understood to mean that this community is nothing more than an interesting and important empirical fact, for I now believe it to have a deeper root. Finally, it is because causality is common to mind and things that we can, as we do, carry our mental causation with us to enlighten physical causation, and, having done so return with clearer ideas to our own mental causality.

This remains true, even if we are content to treat mental process as occurring only in time. It is still more obvious if we adopt the conception, which I believe to be the outcome of an inspection of plain experience, direct and indirect, experience of and experience about, that mind is a character of certain neural processes, or that a mental process is a certain kind of neural process with the character of mentality. This conception and the grounds of it I have urged on so many occasions that I may spare myself and my hearers the tedium of repeating it. It is, I have said, the plain deliverance of experience. It also enables us to understand how mental processes may slip below the level of consciousness, be replaced by a nervous process which has not the character of consciousness, and yet again emerge hereafter above the conscious level. At any rate, if this conception is true, and if mental states are enjoyed not only in time but space, are the enjoyments of physical processes in time and space, the notion of causation is obviously applicable. Nor do I fear the retort of the followers of M. Bergson that this is the grossest possible instance of the delusive habit of spatialising time, for I hold this habit to be no delusion of the intelligence but the representation of truth; and space and time to be indispensable each to the other, so that there is no space which does not occupy time, but equally no time which is not spread out in space. On the contrary, the fact that in its present experience, enjoyed as present, the mind enjoys its own past, as past, in the form of memory, is itself evidence that past and present are

laid out with that distinction from each other which is characteristic of the parts of space.

4. *Freedom and Prediction*.—One mental state may then be determined causally by another. And a mental state may be determined by a physical process, a nervous process not accompanied by mind giving rise causally to one which is so accompanied. There is therefore nothing in free mental action which is incompatible with thorough determinism. But neither is such determinism incompatible with novelty. Novelty may be understood in a less important and in a more important sense. It may be understood merely as a protest against the notion of bare repetition. It may be understood as implying the impossibility of prediction.

Take the former sense first. "As a matter of plain history," writes W. James,* defending himself against the charge of invoking free-will as a supernatural agent, "the only free-will I have ever thought of defending is the character of novelty in fresh activity-situations. If an activity process is the form of a whole 'field of consciousness,' and if each field of consciousness is not only in its totality unique (as is now commonly admitted) but has its elements unique (since in that situation they are all dyed in the total) then novelty is perpetually entering the world, and what happens there is no pure *repetition*, as the dogma of the literal uniformity of nature requires. Activity-situations come, in short, each with an original touch." This amounts to little more than the proposition that individuals, things or events, however much they may exhibit universal characters, have their own special and particularising features; and contradicts nothing in what has here been said. Exception only might be taken to the notion that activity-consciousness implies a whole field of consciousness as being unnecessarily restrictive (see Section 1); but more particularly to the notion that the elements of a total field are

* *Radical Empiricism*, p. 185, note.

unique because they are dyed in the total. They may receive a new value from entry into an organic whole (to borrow an expression from Mr. Moore), but the new character which they thus receive does not necessarily alter their intrinsic nature. Interpenetration, if so understood, would make a colour red different in itself because it may mean blood, or a point defined as the intersection of two straight lines different in itself because it is also a focus of an ellipse. But apart from these objections, every act is so far unique.

Such uniqueness mental action, or more specifically willing, shares with every other individual in the universe. In the end it means the familiar and true doctrine that no mere combination of universals explains individuality. But the novelty of free-will means more than this. It is connected with the belief that human action is not wholly predictable; and I shall try to show both that this belief is within limits well founded and, secondly, that unpredictability is not limited to human determinism.

Undoubtedly human action is partially predictable. The intercourse of men with one another implies it and is based upon it. We resent equally (as Mr. Bradley has said) that our action cannot partly be predicted and that it can be wholly predicted; for instance, if a person tells us he could not be sure that we should speak the truth, or if he tells us he knew precisely what we should do. Our resentment in the second case is in practice a protest against encroachment on our privacy, and it has its good theoretical justification. For, myself is a thing enjoyed, which I myself do not contemplate, and still less a stranger. Still it is true that my mind is, after all, also bodily; and the more another knows of me, mind and body, the better can he forecast my action. A skilled observer, knowing a person's general bodily diathesis, the latent tendencies in his bodily "make-up," might, apart from the difficulty of the calculation, which is supposed to be negligible, go far towards predicting a revolution in his

character under certain circumstances. But the observer could only do so on the basis of present knowledge of human tendencies combined with tendencies suggested by the bodily condition. He could not foretell something out of the range of past experience; though of course after the event had happened he could see the connection of the strange event with its conditions, which would then be seen to have determined it.

This brings us within sight of the deeper justification for the belief that human action cannot wholly be predicted. Human nature is a growing thing, and with the lapse of real time may throw up new characters which can only be known to him who has experienced them. It may be possible to predict, if not from the knowledge we have of minds, at any rate from the knowledge we have of the underlying neural processes, what combination of ideas may possess a man at some future date. But the meaning of the ideas, the spirit of them, the objects to which they refer, may be beyond our calculation. However, the interest of this topic lies not so much in recognising this possibility, as in determining the limits of prediction, in discovering where prediction becomes impossible.

Let me illustrate by cases. And first let me take the famous instance given by Hume of how imagination may in rare cases be aware of its object without actual impression. We may imagine, he thinks, a shade of grey between two given shades, without previous experience. But the alleged fact is gravely open to doubt. To think of an intermediate shade is to be aware of a shade thought of as intermediate—a problem to be solved. We should not know what that which is described as an intermediate shade would look like. As a matter of fact, we should solve the problem by taking a brush and mixing our colours in the intermediate proportions and then we should see that this was what we sought. And this is, in general, the method on which we proceed in order to find what is the object of which the conditions, but not the object itself, are given in our thought. We only discover by getting the experience. I

am not denying that possibly the precise neural process may occur from internal causes to which the shade in question corresponds as object, and that consequently without having actually seen the shade in the outer world a man may conceivably see it in fancy. I only deny that he would imagine it by thinking of it as the intermediate shade ; and if he imagined it accidentally he would only recognise it as being the shade he sought in the same way as if he had mixed the pigments. If this is true of the subject himself, still more is it true for the outsider who observes him and predicts. Even if the subject could by a chance anticipate in fancy in the way described an experience not yet impressed from without, the outsider could not tell what it would be, unless he were identical with the subject. Or, to take another example, how could the outsider predict, without previous knowledge of the experiment, that blue exposed to one eye and red to the other would give me purple. He might know the two nervous processes excited in the two halves of the brain. If they are not entirely distinct, if there is any co-operation between them, any synergy, he might calculate their resultant process. For we may put the extreme hypothesis (which many would reject) and suppose physiological action to be thoroughly calculable by physical and chemical methods. Yet he would not know that this resultant process meant for the subject the consciousness of purple, unless he knew it already, which is supposed not to be the case. The little kink in the "pattern" of a neural movement and how much it is !

In such cases prediction seems impossible, because it is new mental meanings, new objects, which are in question. But the same thing is true of practical action. For minds by their action project new combinations and are creative, bring new things into the world. Thus to an observer in France in the eighteenth century it might have been plain that some revolution and reconstruction was inevitable. He might with sufficient knowledge have calculated beforehand the movements in mechanical terms of all the actors. But he could not

predict that these movements meant for the actors the new idea of political freedom. He would only predict its appearance in forms of movement or at most of life. A third instance will show where it begins to be arguable that in such cases prediction really is possible. Might not the observer from previous knowledge calculate that at such and such a moment an idea would enter the Prime Minister's mind of optional and temporary exclusion of the counties of Ulster from the Irish Parliament; that his mind should work in a way which corresponded to this arrangement outside him? It may be so. But only, I imagine, if it is true that this arrangement means nothing more than rearrangement among familiar things, and so long as this proposed arrangement introduces nothing specifically new, no new creation of the human spirit, in political life.

Thus while the limits of unpredictability are very difficult to fix, it would seem that in certain cases prediction is impossible, even on the supposition of the vastest powers of calculation. In other cases prediction is possible theoretically, though practically impossible because of the coarseness of the calculating instrument. Even then it must be understood that calculation can only succeed so far as the data are exact and individual. But this applies to physical as well as to human concerns.

Determinism in mind is therefore not incompatible with unpredictability; and we have seen the reason, that the predictor is a mind, and while he may predict human future regarded as a contemplated object, that is in physiological terms, he cannot predict it wholly in mental terms. But this fact is not peculiar to human determinism; but it arises at least wherever the distinction of enjoyment and contemplation in the extended sense exists. For there are various levels of existence. For instance, to take an example perhaps beyond cavil, life is on a higher level than mechanical and chemical action. When such action is of a certain kind, a new quality, that

of life, emerges. Now a person who knew only mechanical and chemical action could not predict life; he must wait till life came with the course of time, which "brings hidden things to birth." In like manner life of a certain kind is mind, endowed with a new quality which marks a new level of existence. A person who knew only life could not predict mind, though he might predict that combination of vital actions which has mind. In general, let A be a lower level and B the next higher level. A person on the level B could possibly predict the whole future in terms of A but not in terms of B, *e.g.*, if he lived at the beginning of life, he could not predict the forms of life except possibly in terms of A. I use the word possibly in order to point out a qualification. For not only are there differences of level in existence, but within any level of existence, *e.g.*, animal life, there are differences, like those of animal species, emerging in the course of time which may amount to differences of quality, or of value, like those that occur in the growth of humanity, of which I have given an example from the French Revolution. Now it is an open question whether on the level A such differences of quality could be predicted by a creature on the level B. For instance could an angel or God foretell all the new creations of human advance? It may be no; though on the other hand the cyclical recurrence of groups of physical properties even among the elements might indicate that there is some calculable order of forms of existence. Be this as it may, about one stage of existence no question seems to arise: the lowest of all, changes in space and time. In terms of space and time the future can be predicted for a person on any stage higher, sufficient calculating capacity being presumed.

From this point of view we can approach the famous puzzle of the Laplacean calculator, which is full of confusions, but contains a truth. A person who knows the whole state of the universe at any moment can calculate, so it urges, the whole future. Now it is true, I understand, that, given the condition of

the universe at a certain number of instants in terms of space and time, the whole future can be calculated in terms of space and time. But what it will be like, what qualities it shall have more than spatial and temporal ones, he cannot know unless he knows already, or until he lives to see. He will be able to say that this morning certain vibrations at a rate of so many billions a second will impinge upon a certain group of motions of a highly complicated character, but unless he knows what green is and what life and mind are, he will not be able to say that I shall this morning see the green of my garden. How much of the future he will be able to predict depends on the time at which his calculation begins, that is, on the stage which the universe has then attained in the unfolding of its characters. Certainly, if he is only present during the nebular period, he will never predict you and me, though he may predict the groups of changes in space and time which go by those names. Suppose he begins when human minds exist, he cannot, as we have seen, predict their future completely, because he only enjoys mind; and it is an open question whether he may foretell all possible developments at lower levels. Except in the limited sense described, the hypothesis of the calculator is absurd. He is supposed to be predicting as a man, though with more than human skill. Yet, if he exists at a stage earlier than the arrival of mind, he is an impossibility, and, anyhow, he has not the materials for complete prediction except to the extent indicated. If he exists at the human stage, he is supposed to be contemplating human development instead of being involved in it himself, and the one thing which he cannot do for that reason is to foretell completely the future of man and still less of stages higher than mind. He stands, in fact, for little more than the proposition that at any moment of the world's existence the future of the world will be what it will be. But what it will be he cannot foretell, for the world itself is in time and is in perpetual growth, producing fresh combinations.

Either, then, the infinitely calculating mind of the hypothesis

is unable to predict, or it is supposed by a *petitio principii* to know more than it really knows, and prediction is unnecessary. In the end it assumes time to be unreal, or, what is the same thing, that the universe is completed, that, as M. Bergson says, *tout est donné*. Nor is it of the least help to identify the infinite mind with God. For whatever deity may be it is not merely infinite mind, if that phrase has any meaning, but something higher. The only meaning which can rationally be attached to the notion that God can predict the whole future is that the future will be what it will be. And there is one part of the universe which in any case even God cannot predict, and that is his own future.*

Determinism and prediction are therefore distinct ideas, and determinism is compatible with unpredictability, and freedom with predictability.

5. *Rejected Criteria*.—Not only is mental determinism compatible with unpredictability, it is also compatible with necessity. Perhaps I may be dispensed from entering upon this perplexed topic further than to say after Mr. Russell† that necessity only conflicts with freedom if it means compulsion which either makes freedom impossible or which is opposed to free choice. But such necessity is not that which is implied by determinism. Further, so far as any contemplating being can predict the course of human action, such prediction implies that the subjects concerned are aware of their freedom, and thus act freely. If the fact that their action could be predicted were an element in determining action, action would become different and would, in truth, become self-contradictory, as likewise would prediction. Perhaps, however, I need not chase my hearers to the commonplaces of the *ignava ratio*.

* Some of these remarks about the calculator and on the general subject of this section are in agreement with what is said by Mr. Ward (*Nat. and Agnost.*, Lect. ii, vol. i, pp. 40 ff.) and more particularly by Mr. Bosanquet (*Individuality and Value*, Lect. iii, pp. 106-17).

† *Proc. Arist. Soc.*, vol. xiii (1912-3), pp. 24, 25.

But it is useful by way of drawing to a close to indicate what freedom is not, to reject some of the criteria by which on one occasion or other it has been designated. Some of my remarks will repeat what has been said already :—

(1) Freedom does not mean action which proceeds from the whole personality, though that is true of the completest freedom. For, as we have seen, the physical body, too, which for us is not free, thrills also to its depths at the touch of circumstance.

(2) It does not mean indetermination. When indetermination is used to mean that free action either cannot practically be predicted, or in certain cases cannot be predicted even theoretically, in both these senses free or human action is indeterminate or novel, but in both senses such indetermination is true in the non-mental world. It is certain that the individuality of every physical event exceeds the practical resources of science to predict. And, secondly, as we have seen, for the same reason, as we are beyond certain limits totally unpredictable by ourselves, events in nature are equally so at their own level.

If indetermination means novelty, it is thus not distinctive of freedom. On the other hand, if it means contingency, that the act in spite of its antecedents might have been different, this must be rejected as untrue. Neither science nor philosophy are concerned with what might or might not be, nor, I may add, with what must be, but only with what is. That the act has determinedly followed in fact from its antecedents is all that is meant by its determinism. It might have been different if the antecedents had been different. And in general this criterion too often is merely the misreading of the consciousness that it *ought* to have been different. It depends on the difference between true or positive freedom and negative freedom. I have done wrong : had I been truly free or good, I should have done otherwise. Or perhaps I may have done right, but I am conscious that if I had not been truly free I should still have been free.

(3) Freedom does not mean ignorance of the real causes of action. On the contrary it means awareness of them.

(4) It does not mean purpose, if only because actions may be attended by consciousness of freedom which are not purposed. Freedom of the will always involves purpose, but purpose, though essential to the willing, is not essential to its freedom, that is does not define its freedom. The significance of purpose, great as it is in the practical sense, has been it appears to me vastly exaggerated in some recent discussions in its theoretical bearings. It has been taken to carry with it the notion that mind is an entity distinct from the neural processes through which it works. This is a topic which there is no room to discuss here, though I hope to revert to it at some future time. But for our present object it is enough to observe that purpose is the idea of an end which precedes the action. But this idea (I mean the ideation of it) is itself determined by antecedents and in turn it determines action. Willing is eminently free because throughout its stages we have the awareness of enjoyment determined by enjoyment. But that the determining enjoyment is the anticipation of the determined one is vital to the will but not to its freedom.

(5) Freedom does not mean the contrast of the intelligible with the sensible character of human nature. Again this is no place to discuss the Kantian doctrine, either the difficulties from which it saves or the greater ones into which it precipitates us. Freedom supplies for Kant the explanation of the moral law (is its *ratio essendi*). But it may well be that moral obligation can be satisfactorily accounted for from what human minds enjoy. At any rate for us the contrast of intelligible and sensible character is a distinction found within the mind we enjoy, within the empirical mind. Indeed, I do not know how the mind should ever be regarded as anything else than purely empirical, were it not that it is supposed to contemplate itself, which in fact it never does.

6. *Freedom in Nature and in Mind.*—Freedom then is

determination in enjoyment, and we have seen that it involves no feature save enjoyment which distinguishes it from natural or physical action, which is contemplated. Not all human action is free. When it is unfree its determinants are not present in enjoyment. But when free action in turn becomes the object of contemplation it falls into the class of determined natural action. At the same time the angel or God who sees our action as determined may know also that for us it is enjoyment and free, though he cannot enjoy our freedom but only know *that* we feel it. Let us extend the usage of enjoyment and contemplation, and we shall then see that each contemplated thing enjoys its own peculiar level of existence while it contemplates the levels below it. Hence the action of the plant which for us is natural determination is for the plant itself the enjoyment of its freedom. The stone which for us is compelled from our point of view is free in its internal actions for itself. It acts, in the Spinozistic phrase, from the necessity of its own nature. It is only to the higher level of creatures that free determinism or enjoyment in determination becomes mere determinism. Thus freedom in general is the experience which each thing has of the working of its own nature; and a distinction parallel to ours of freedom and unfreedom exists for the plant and for the stone or the atom. The plant undergoes the wind which bends it, or the air which sets its respiration at work. But it enjoys its own free act of respiration. The stone is passive to the freezing water that splits it, but free in its resilience to deformation. Physicists are now occupied with the free actions of the atom.

Thus freedom is not an exceptional privilege of human life, but as enjoyed determination is, as Wordsworth said of pleasure, "spread through the world." And I can but trust that this conclusion of our inquiry is not more disappointing than discussions of freedom usually are.

Postscript.—The discussion which followed the paper turned mainly on the paradox of Section 2, that my remembrance of my past state was enjoyed as past and not as present. But though the discussion did not shake my belief in the truth of that proposition, it revealed to me a carelessness and ambiguity in my statement of it which I desire to remove. I speak sometimes of the enjoyment of the past or remembered state, and this I rightly affirm to be for the experient himself past and not present. But I also speak sometimes of the act of remembering, as if the two things were convertible. I ought to have said, that part of the whole act of remembering which consists in the revival of the past state; and this I did hint though lamely in my answer. I have urged in the paper on "Conational Psychology," Section 9, that to remember an *object* means that the object is before my mind in idea with the mark of the past, and that remembering a past object is the act by which this idea with its pastness is appropriated by or recognised as belonging to myself; so that I can say this past object is mine. The remembering of the object is thus a retrospective desire by which the object with its pastness is brought up from its isolation and attached to my present self. Now take remembrance of a past *mental state*. That which is remembered is no longer an object; the object is still the non-mental object of my past act or state of mind; the memory is now itself a mental act, call it *a*, corresponding to the past mental act or state A. That mental act is part of the whole complex act of remembering, which I may represent as $S(a)$, where S stands for the mental acts described as the enjoyment of my present Self and for the process, characteristic of remembering, by which *a* is raised into clearness and attachment to my *present* enjoyment. Now the whole act of remembering my past state A is $S(a)$ and *a* is only a part of it, though still a mental state, that is, act; in other words it is no part of the *object* remembered. My position is that *a* is enjoyed as past and not as present. The paradox doubtless

remains; but it will be plain from this explanation that nothing prevents me from saying that I now or at this moment remember A, as opposed to remembering it five minutes ago, or that I now gradually or with difficulty remember A, that is I in the present apprehend the process by which painfully α emerges into clearness and connection with my present self. Or to put it otherwise, the process by which the state or act α is identified with me and recognised as mine is enjoyed in the present but α itself is not enjoyed as present but as past. The difference from remembering an object is that the memory in that case is still non-mental and what is called remembering does not contain the object. But in remembering the past state of mind the whole act of remembering includes as part of its constituents the memory of the mental state. I have indeed still left unexplained (it is not so easy a matter) the exact meaning of saying that in remembering the memory has the character of pastness, but I have no space for this and I hope to return to the subject, though I may refer meantime to the above-mentioned article (p. 260)* with the reservation made in the note on p. 332 of the present article.

As I am adding a postscript, I may observe that the words configuration, group and transformation in Section 3 are used popularly and not in the technical sense in which they are used by mathematicians.

* *Brit. Journ. Psych.*, vol. iv, 1911.

XII.—SYMPOSIUM—THE STATUS OF SENSE-DATA.

By G. E. MOORE and G. F. STOUT.

I.—By G. E. MOORE.

THE term "sense-data" is ambiguous; and therefore I think I had better begin by trying to explain what the class of entities is whose status I propose to discuss.

There are several different classes of mental events, all of which, owing to their intrinsic resemblance to one another in certain respects, may, in a wide sense, be called "sensory experiences," although only some among them would usually be called "sensations." There are (1) those events, happening in our minds while we are awake, which consist in the experiencing of one of those entities, which are usually called "images," in the narrowest sense of the term. Everybody distinguishes these events from sensations proper; and yet everybody admits that "images" intrinsically resemble the entities which are experienced in sensations proper in some very important respect. There are (2) the sensory experiences we have in dreams, some of which would certainly be said to be experiences of images, while others might be said to be sensations. There are (3) hallucinations, and certain classes of illusory sensory experiences. There are (4) those experiences, which used to be called the having of "after-images," but which psychologists now say ought rather to be called "after-sensations." And there are, finally, (5) that class of sensory experiences, which are immensely commoner than any of the above, and which may be called *sensations proper*, if we agree to use this term in such a way as to exclude experiences of my first four sorts.

Every event, of any one of these five classes, consists in the fact that an entity, of some kind or other, *is experienced*. The entity which is experienced may be of many different kinds; it

may, for instance, be a patch of colour, or a sound, or a smell, or a taste, etc.; or it may be an image of a patch of colour, an image of a sound, an image of a smell, an image of a taste, etc. But, whatever be its nature, the entity which *is* experienced must in all cases be distinguished from the fact or event which consists in its being experienced; since by saying that it is experienced we mean that it has a relation of a certain kind to something else. We can, therefore, speak not only of *experiences* of these five kinds, but also of the entities which *are experienced* in experiences of these kinds; and the entity which is experienced *in* such an experience is never identical with the experience which consists in its being experienced. But we can speak not only of the entities which *are* experienced in experiences of this kind, but also of *the sort* of entities which are experienced in experiences of this kind; and these two classes may again be different. For a patch of colour, even if it were not actually experienced, would be an entity *of the same sort* as some which are experienced in experiences of this kind: and there is no contradiction in supposing that there are patches of colour, which yet are not experienced; since by calling a thing a patch of colour we merely make a statement about its intrinsic quality, and in no way assert that it has to anything else any of the relations which may be meant by saying that it is experienced. In speaking, therefore, of *the sort of* entities which are experienced in experiences of the five kinds I have mentioned, we do not necessarily confine ourselves to those which actually *are* experienced in some such experience: we leave it an open question whether the two classes are identical or not. And the class of entities, whose status I wish to discuss, consists precisely of all those, whether experienced or not, which are *of the same sort* as those which are experienced in experiences of these five kinds.

I intend to call this class of entities the class of *sensibles*; so that the question I am to discuss can be expressed in the form: What is the status of sensibles? And it must be remembered that images and after-images are just as much "sensibles," in

my sense of the term, as the entities which are experienced in sensations proper; and so, too, are any patches of colour, or sounds, or smells, etc. (if such there be), which are not experienced at all.

In speaking of sensibles as *the sort of* entities which are experienced in sensory experiences, I seem to imply that all the entities which are experienced in sensory experiences have some common characteristic other than that which consists in their being so experienced. And I cannot help thinking that this is the case, in spite of the fact that it is difficult to see what intrinsic character can be shared in common by entities so different from one another as are patches of colour, sounds, smells, tastes, etc. For, so far as I can see, some non-sensory experiences may be exactly similar to sensory ones, in all intrinsic respects, except that what is experienced in them is different in kind from what is experienced in any sensory experience: the relation meant by saying that in them something *is experienced* may be exactly the same in kind, and so may the experient. And, if this be so, it seems to compel us to admit that the distinction between sensory and non-sensory experiences is derived from that between sensibles and non-sensibles, and not *vice versa*. I am inclined, therefore, to think that all sensibles, in spite of the great differences between them, have some common intrinsic property, which we recognise, but which is unanalysable; and that, when we call an experience sensory, what we mean is not only that in it something is experienced in a particular way, but also that this something has this unanalysable property. If this be so, the ultimate definition of "sensibles" would be merely all entities which have this unanalysable property.

It seems to me that the term "sense-data" is often used, and may be correctly used, simply as a synonym for "sensibles"; and everybody, I think, would expect me, in discussing the status of sense-data, to discuss, among other things, the question whether there are any sensibles which are not "given." It is true that the etymology of the term

"sense-data" suggests that nothing should be called a sense-datum, but what *is* given; so that to talk of a non-given sense-datum would be a contradiction in terms. But, of course, etymology is no safe guide either as to the actual or the correct use of terms; and it seems to me that the term "sense-data" is often, and quite properly, used merely for *the sort of* entities that are given in sense, and not in any way limited to those which are actually given. But though I think I might thus have used "sense-data" quite correctly instead of "sensibles," I think the latter term is perhaps more convenient; because, though nobody ought to be misled by etymologies, so many people in fact are so. Moreover the term "sense-data" is sometimes limited in yet another way, viz., to the sort of sensibles which are experienced in *sensations proper*; so that in this sense "images" would not be "sense-data." For both these reasons, I think it is perhaps better to drop the term "sense-data" altogether, and to speak only of "sensibles."

My discussion of the status of sensibles will be divided into two parts. I shall first consider how, in certain respects, they are related to our minds; and then I shall consider how, in certain respects, they are related to physical objects.

I.—(1) We can, I think, distinguish pretty clearly at least one kind of relation which sensibles, of all the kinds I have mentioned, do undoubtedly sometimes have to our minds.

I do now see certain blackish marks on a whitish ground, and I hear certain sounds which I attribute to the ticking of my clock. In both cases I have to certain sensibles—certain blackish marks, in the one case, and certain sounds, in the other—a kind of relation with which we are all perfectly familiar, and which may be expressed, in the one case, by saying that I actually *see* the marks, and in the other, by saying that I actually *hear* the sounds. It seems to me quite evident that the relation to the marks which I express by

saying that I *see* them, is not different in kind from the relation to the sounds which I express by saying that I *hear* them. "Seeing" and "hearing," when thus used as names for a relation which we may have to sensibles, are not names for different relations, but merely express the fact that, in the one case, the kind of sensible to which I have a certain kind of relation is a patch of colour, while, in the other case, the kind of sensible to which I have the same kind of relation is a sound. And similarly when I say that I feel warm or smell a smell, these different verbs do not express the fact that I have a different kind of relation to the sensibles concerned, but only that I have the *same* kind of relation to a different kind of sensible. Even when I call up a visual image of a sensible I saw yesterday, or an auditory image of a sound I heard yesterday, I have to those images exactly the same kind of relation which I have to the patches of colour I now see and which I had yesterday to those I saw then.

But this kind of relation, which I sometimes have to sensibles of all sorts of different kinds, images as well as others, is evidently quite different in kind from another relation which I may also have to sensibles. After looking at this black mark, I may turn away my head or close my eyes, and then I no longer *actually see* the mark I saw just now. I may, indeed, have (I myself actually do have at this moment) a visual *image* of the mark before my mind; and to this image I do now have exactly the same kind of relation which I had just now to the mark itself. But the image is not identical with the mark of which it is an image; and to the mark itself it is quite certain that I have *not* now got the same kind of relation as I had just now, when I was actually seeing it. And yet I certainly may *now* have to that mark itself a kind of relation, which may be expressed by saying that I am *thinking of* it or remembering it. I can *now* make judgments about *it itself*—the very sensible which I did see just now and am no longer seeing: as, for instance, that I did then see it

and that it was different from the image of it which I am now seeing. | It is, therefore, quite certain that there is a most important difference between the relation I have to a sensible when I am actually seeing or hearing it, and any relation (for there may be several) which I may have to the same sensible when I am only thinking of or remembering it. And I want to express this difference by using a particular term for the former relation. I shall express this relation, which I certainly do have to a sensible when I actually see or hear it, and most certainly do not have to it, when I only think of or remember it, by saying that there is in my mind a *direct apprehension* of it. I have expressly chosen this term because, so far as I know, it has not been used hitherto as a technical term; whereas all the terms which have been so used, such as "presented," "given," "perceived," seem to me to have been spoilt by ambiguity. People sometimes, no doubt, use these terms as names for the kind of relation I am concerned with. But you can never be sure, when an entity is said to be "given" or "presented" or "perceived," that what is meant is simply and solely that it has to someone that relation which sensibles do undoubtedly have to me when I actually see or hear them, and which they do *not* have to me when I only think of or remember them.

I have used the rather awkward expression "There is in my mind a direct apprehension of this black mark," because I want to insist that though, when I see the mark, the mark certainly has to *something* the fundamental relation which I wish to express by saying that it is directly apprehended, and though the event which consists in its being directly apprehended by that something is certainly a mental act of *mine* or which occurs in my mind, yet the something which directly apprehends it may quite possibly not be anything which deserves to be called "I" or "me." It is quite possible, I think, that there is *no* entity whatever which deserves to be called "I" or "me" or "my mind"; and hence that nothing

whatever is ever directly apprehended by *me*. Whether this is so or not, depends on the nature of that relation which certainly does hold between all those mental acts which are *mine*, and does not hold between any of mine and any of yours; and which holds again between all those mental acts which are yours, but does not hold between any of yours and any of mine. And I do not feel at all sure what the correct analysis of this relation is. It may be the case that the relation which unites all those acts of direct apprehension which are mine, and which is what we mean to say that they have to one another when we say they all are mine, really does consist in the fact that one and the same entity is *what* directly apprehends in each of them: in which case this entity could properly be called "me," and it *would* be true to say that, when I see this black mark, *I* directly apprehend it. But it is also quite possible (and this seems to me to be the view which is commonest among psychologists) that the entity which directly apprehends, in those acts of direct apprehension which are mine, is numerically different in every different act; and that what I mean by calling all these different acts *mine* is either merely that they have some kind of relation to *one another* or that they all have a common relation to some other entity, external to them, which may or may not be something which deserves to be called "me." On any such view, what I assert to be true of this black mark, when I say that it is seen by me, would not be simply that it is directly apprehended by me, but something more complex in which, besides direct apprehension, some other quite different relation was also involved. I should be asserting *both* (1) that the black mark is being directly apprehended by *something*, and (2) that this act of direct apprehension has to something else, external to it, a quite different relation, which is what makes it an act of *mine*. I do not know how to decide between these views, and that is why I wished to explain that the fundamental relation, which I wish to call direct apprehension, is one which quite

possibly never holds between *me* and any sensible. But, once this has been explained, I think no harm can result from using the expression "I directly apprehend A" as a synonym for "A direct apprehension of A occurs in my mind." And in future I shall so speak, because it is much more convenient.

The only other point, which seems to me to need explanation, in order to make it quite clear what the relation I call "direct apprehension" is, concerns its relation to *attention*; and as to this I must confess I don't feel clear. In every case, where it is quite clear to me that I am directly apprehending a given entity, it seems also clear to me that I am, more or less, attending to it; and it seems to me possible that what I mean by "direct apprehension" may be simply identical with what is meant by "attention," in *one* of the senses in which that word can be used. That it can, at most, only be identical with *one* of the relations meant by attention seems to me clear, because I certainly can be said to attend, in some sense or other, to entities, which I am not directly apprehending: I may, for instance, think, with attention, of a sensible, which I saw yesterday, and am certainly not seeing now. It is, therefore, clear that to say I am attending to a thing and yet am *not* directly apprehending it, is not a contradiction in terms: and this fact alone is sufficient to justify the use of the special term "direct apprehension." But whether to say that I am directly apprehending a given thing and yet am *not* attending to it, in any degree at all, is or is not a contradiction in terms, I admit I don't feel clear.

However that may be, one relation, in which sensibles of all sorts do sometimes stand to our minds, is the relation constituted by the fact that we directly apprehend them: or, to speak more accurately, by the fact that events which consist in their being directly apprehended are *in* our minds, in the sense in which to say that an event is *in* our minds means merely that it is a mental act of *ours*—that it has to our other mental acts that relation (whatever it may be) which we mean by saying that they

are all mental acts *of the same individual*. And it is clear that to say of a sensible that it is directly apprehended by me, is to say of it something quite different from what I say of a mental act of mine, when I say that this *mental act* is *in my mind*: for nothing is more certain than that an act of direct apprehension or belief may be in my mind, without being itself directly apprehended by me. If, therefore, by saying that a sensible is *in our minds* or is *ours*, we mean merely that it is directly apprehended by us, we must recognise that we are here using the phrases "in our minds" or "ours" in quite a different sense from that in which we use them when we talk of our mental acts being "in our minds" or "ours." And why I say this is because I think that these two relations are very apt to be confused. When, for instance, we say of a given entity that it is "experienced," or when the Germans say that it is "*erlebt*," it is sometimes meant, I think, merely that it is directly apprehended, but sometimes that it is in my mind, in the sense in which, when I entertain a belief, this act of belief is in my mind.

But (2) it seems to me to be commonly held that sensibles are often in our minds in some sense quite other than that of being directly apprehended by us or that of being thought of by us. This seems to me to be often what is meant when people say that they are "immediately experienced" or are "subjective modifications"; though, of course, both expressions are so ambiguous, that when people say that a given entity is immediately experienced or is a subjective modification, they *may* mean merely that it is directly apprehended. And since I think this view is held, I want to explain that I see no reason whatever for thinking that sensibles ever are experienced by us in any other sense than that of being directly apprehended by us.

Two kinds of argument, I think, are sometimes used to show that they are.

(a) It is a familiar fact that, when, for instance, we are in a

room with a ticking clock, we may seem suddenly to become aware of the ticks, whereas, so far as we can tell, we had previously not heard them at all. And it may be urged that in these cases, since the same kind of stimulus was acting on our ears all the time, we must have *experienced* the same kind of sensible sounds, although we did not directly apprehend them.

But I think most psychologists are now agreed that this argument is quite worthless. There seem to me to be two possible alternatives to the conclusion drawn. It may, I think, possibly be the case that we did directly apprehend the ticks all the time, but that we cannot afterwards remember that we did, because the degree of attention (if any) with which we heard them was so small, that in ordinary life we should say that we did not attend to them at all. But what, I think, is much more likely is that, though the same stimulus was acting on our ears, it failed to produce any mental effect whatever, because our attention was otherwise engaged.

(b) It is said that sometimes when we suddenly become aware, say, of the eighth stroke of a striking clock, we can *remember* earlier strokes, although we seem to ourselves *not* to have directly apprehended them. I cannot say that I have ever noticed this experience in myself, but I have no doubt that it is possible. And people seem inclined to argue that, since we can remember the earlier strokes, we must have experienced them, though we did not directly apprehend them.

But here again, the argument does not seem to me at all conclusive. I should say, again, that it is possible that we did directly apprehend them, but only with a very slight degree of attention (if any). And, as an alternative, I should urge that there is no reason why we should not be able to remember a thing, which we never experienced at all.

I do not know what other arguments can be used to show that we sometimes *experience* sensibles in a sense quite other than that of directly apprehending them. But I do not know

how to show that we do not ; and since people, whose judgment I respect, seem to hold that we do, I think it is worth while to say something as to what this sense of "experience" can be, in case it does occur.

I have said that sometimes when people say that a given entity is "experienced" they seem to mean that it belongs to some individual, in the sense in which my acts of belief belong to me. To say that sensibles were experienced by me in this sense would, therefore, be to say that they sometimes have to my acts of belief and acts of direct apprehension the same relation which these have to one another—the relation which constitutes them *mine*. But that sensibles ever have this kind of relation to my mental acts, is a thing which I cannot believe. Those who hold that they are ever experienced at all, in some sense other than that of being directly apprehended, always hold, I think, that, whenever they are directly apprehended by us, they also, at the same time, have to us this other relation as well. And it seems to me pretty clear that when I do directly apprehend a sensible, it does *not* have to me the same relation which my direct apprehension of it has.

If, therefore, sensibles are ever experienced by us at all, in any sense other than that of being directly apprehended by us, we must, I think, hold that they are so in an entirely new sense, quite different both from that in which to be experienced means to be directly apprehended, and from that in which to be experienced means to occur in some individual's mind. And I can only say that I see no reason to think that they ever are experienced in any such sense. If they are, the fact that they are so is presumably open to the inspection of us all ; but I cannot distinguish any such fact as occurring in myself, as I can distinguish the fact that they are directly apprehended. On the other hand, I see no way of showing that they are *not* experienced in some such sense ; and perhaps somebody will be able to point it out to me. I do not wish to assume, therefore, that there *is* no such sense ; and hence, though I am inclined to think that the *only*

sense in which they are experienced is that of being directly apprehended, I shall, in what follows, use the phrase "experienced" to mean *either* directly apprehended *or* having to something this supposed different relation, if such a relation there be.

(3) We may now, therefore, raise the question: Do sensibles ever exist at times when they are not being experienced at all?

To this question it is usual to give a negative answer, and two different *a priori* reasons may be urged in favour of that answer.

The first is what should be meant by Berkeley's dictum that the *esse* of sensibles is *percipi*. This should mean, whatever else it may mean, at least this: that to suppose a sensible to exist and yet *not* to be experienced is self-contradictory. And this at least seems to me to be clearly false. Anything which was a patch of colour would be a sensible; and to suppose that there are patches of colour which are not being experienced is clearly not self-contradictory, however false it may be.

It may, however, be urged (and this is the second argument) that, though to suppose a thing to be a sensible and *yet* not experienced is not self-contradictory, yet we can clearly see that nothing can have the one property without having the other. And I do not see my way to deny that we may be able to know, *a priori*, that such a connection holds between two such properties. In the present case, however, I cannot see that it does hold, and therefore, so far as *a priori* reasons go, I conclude that there is no reason why sensibles should not exist at times when they are not experienced.

It may, however, be asked: Is there any reason to suppose that they ever do? And the reason, which weighs with me most, is one which applies, I think, to a certain class of sensibles *only*; a class which I will try to define by saying that it consists of those which *would* (under certain conditions which actually exist) be experienced in a *sensation proper*, if *only* a living body, having a certain constitution, existed under those conditions in a position in which no such body does

actually exist. I think it is very probable that this definition does not define at all accurately the kind of sensibles I mean; but I think that what the definition aims at will become clearer when I proceed to give my reasons for supposing that sensibles, of a kind to be defined in *some* such way, do exist unexperienced. The reason is simply that, in Hume's phrase, I have "a strong propensity to believe" that, *e.g.*, the visual sensibles which I directly apprehend in looking at this paper, still exist unchanged when I merely alter the position of my body by turning away my head or closing my eyes, *provided* that the physical conditions outside my body remain unchanged. In such a case it is certainly true in some sense that I *should* see sensibles like what I saw the moment before, *if only* my head were still in the position it was at that moment or my eyes unclosed. But if, in such a case, there is reason to think that sensibles which I should see, if the position of my body were altered, exist in spite of the fact that I do not experience them, there is, I think, an equal reason to suppose it in other cases. We must, for instance, suppose that the sensibles which I should see now, if I were at the other end of the room, or if I were looking under the table, exist at this moment, though they are not being experienced. And similarly we must suppose that the sensibles which *you* would see, if you were in the position in which I am now, exist at this moment, in spite of the fact that they may be more or less different from those which I see, owing to the different constitution of your bodies. All this implies, of course, that a vast number of sensibles exist at any moment, which are not being experienced at all. But still it implies this only with regard to sensibles of a strictly limited class, namely sensibles which would be experienced *in a sensation proper*, if a body, having a certain constitution, were in a position in which it is not, under the given physical conditions. It does not, for instance, imply that any *images*, of which it may be true that I *should* have them,

under present physical conditions, if the position of my body were altered, exist now ; nor does it imply that sensibles which *would* be experienced by me now in a sensation proper, if the physical conditions external to my body were different from what they are, exist now.

I feel, of course, that I have only succeeded in defining miserably vaguely the kind of sensibles I mean ; and I do not know whether the fact that I have a strong propensity to believe that sensibles of a kind to be defined in some such way, do exist unexperienced, is any good reason for supposing that they actually do. The belief may, of course, be a mere prejudice. But I do not know of any certain test by which prejudices can be distinguished from reasonable beliefs. And I cannot help thinking that there may be a class of sensibles, capable of definition in *some* such way, which there really is reason to think exist unexperienced.

But, if I am not mistaken, there is an empirical argument which, though, even if it were sound, it would have no tendency whatever to show that *no* sensibles exist unexperienced, would, if it were sound, show that this very class of sensibles, to which alone my argument for unexperienced existence applies, certainly do not so exist. This, it seems to me, is the most weighty argument which can be used upon the subject ; and I want, therefore, to give my reasons for thinking that it is fallacious.

The argument is one which asserts that there is abundant empirical evidence in favour of the view that the existence of the sensibles which we experience at any time, always depends upon the condition of our nervous system ; so that, even where it also depends upon external physical conditions, we can safely say that sensibles, which we should have experienced, if only our nervous system had been in a different condition, certainly do not exist, when it is not in that condition. And the fallacy of this argument seems to me to lie in the fact that it does not distinguish between the

existence of the sensibles *which* we experience and *the fact that we experience them*. What there is evidence for is that *our experience* of sensibles always depends upon the condition of our nervous system ; that, according as the condition of the nervous system changes, different sensibles are *experienced*, even where other conditions are the same. But obviously the fact that our experience of a given sensible depends upon the condition of our nervous system does not directly show that the existence of *the sensible experienced* always also so depends. The fact that I am now experiencing this black mark is certainly a different fact from the fact that this black mark now exists. And hence the evidence which does tend to show that the former fact would not have been a fact, if my nervous system had been in a different condition, has no tendency to show that the latter would not have been so either. I am sure that this distinction ought to be made ; and hence, though I think there may be other reasons for thinking that the very existence of the sensibles, which we experience, and not merely the fact that we experience them, *does* always depend upon the condition of our nervous systems, it seems to me certain that this particular argument constitutes no such reason.

And I think that those who suppose that it does are apt to be influenced by an assumption, for which also, so far as I can see, there is no reason. I have admitted that the only reason I can see for supposing that sensibles which we experience ever exist unexperienced, seems to lead to the conclusion that the sensibles which would be seen by a colour-blind man, if he occupied exactly the position which I, who am not colour-blind, now occupy, exist now, just as much as those which I now see. And it may be thought that this implies that the sensibles, which he would see, and which would certainly be very different from those which I see, are nevertheless, at this moment, in exactly the same place as those which I see. Now, for my part, I am not prepared to admit that it is impossible they should be in the same place. But the assumption against

which I wish to protest, is the assumption that, if they exist at all, they *must* be in the same place. I can see no reason whatever for this assumption. And hence any difficulties there may be in the way of supposing that they could be in the same place at the same time as the sensibles which I see, do not at all apply to my hypothesis, which is only that they exist *now*, *not* that they exist *in the same place* in which mine do.

On this question, therefore, as to whether sensibles ever exist at times when they are not experienced, I have only to say (1) that I think there is certainly no good reason whatever for asserting that *no* sensibles do ; and (2) that I think perhaps a certain amount of weight ought to be attached to our instinctive belief that certain kinds of sensibles do ; and that here again any special arguments which may be brought forward to show that, whether some sensibles exist unexperienced or not, *this* kind certainly do not, are, so far as I can see, wholly inconclusive.

II. I now pass to the question how sensibles are related to physical objects. And here I want to say, to begin with, that I feel extremely puzzled about the whole subject. I find it extremely difficult to distinguish clearly from one another the different considerations which ought to be distinguished ; and all I can do is to raise, more or less vaguely, certain questions as to how certain *particular* sensibles are related to certain *particular* physical objects, and to give the reasons which seem to me to have most weight for answering these questions in one way rather than another. I feel that all that I can say is very tentative.

To begin with, I do not know how "physical object" is to be defined, and I shall not try to define it. I shall, instead, consider certain propositions, which everybody will admit to be propositions *about* physical objects, and which I shall assume that I know to be true. And the question I shall raise is as to how these propositions are to be interpreted—in *what sense*

they are true ; in considering which, we shall at the same time consider how they are related to certain sensibles.

I am looking at two coins, one of which is a half-crown, the other a florin. Both are lying on the ground ; and they are situated obliquely to my line of sight, so that the visual sensibles which I directly apprehend in looking at them are visibly elliptical, and not even approximately circular. Moreover, the half-crown is so much farther from me than the florin that *its* visual sensible is visibly smaller than that of the florin.

In these circumstances I am going to assume that I know the following propositions to be true ; and no one, I think, will deny that we can know such propositions to be true, though, as we shall see, extremely different views may be taken as to what they mean. I know (*a*) that, in the ordinary sense of the word "see," I am *really seeing two coins* ; an assertion which includes, if it is not identical with, the assertion that the visual experiences, which consist in my direct apprehension of those two elliptical patches of colour, *are* sensations proper, and are not either hallucinations nor mere experiences of "images" ; (*b*) that the upper sides of the coins are *really* approximately circular, and not merely elliptical like the visual sensibles ; (*c*) that the coins *have* another side, and an inside, though I don't see it ; (*d*) that the upper side of the half-crown is *really larger* than that of the florin, though its visual sensible is *smaller* than the visual sensible of the upper side of the florin : (*e*) that both coins continue to exist, even when I turn away my head or shut my eyes : but in saying this, I do not, of course, mean to say that there is absolutely *no* change in them ; I daresay there must be *some* change, and I do not know how to define exactly what I do mean. But we can, I think, say at least this : viz., that propositions (*b*), (*c*), and (*d*) will still be true, although proposition (*a*) has ceased to be true.

Now all these propositions are, I think, typical propositions of the sort which we call propositions about physical objects ;

and the two coins themselves *are* physical objects, if anything is. My question is: *In what sense* are these propositions true?

And in considering this question, there are, I think, two principles which we can lay down as certain to begin with; though they do not carry us very far.

The one is (α) that the upper side of the coin, which I am said to *see*, is *not* simply identical with the visual sensible which I *directly apprehend* in seeing it. That this is so might be thought to follow absolutely from each of the two facts which I have called (*b*) and (*d*); but I am not quite sure that it does follow from either of these or from both together: for it seems to me just possible that the two sensibles in question, though *not* circular in *my private space*, may yet be circular in *physical space*; and similarly that though the sensible of the half-crown is smaller than that of the florin in *my private space*, it may be larger in *physical space*. But what I think it does follow from is the fact that another person may be seeing the upper side of the coin in exactly the same sense in which I am seeing it, and yet his sensible be certainly different from mine. From this it follows absolutely that the upper side of the coin cannot be identical with *both* sensibles, since they are *not* identical with one another. And though it does not follow absolutely that it may not be identical with *one* of the two, yet it does follow that we *can* get a case in which it is not identical with *mine*; and I need only assume that the case I am taking is such a case.

From this it follows that we must distinguish that sense of the word "see" in which we can be said to "see" a physical object, from that sense of the word in which "see" means merely to directly apprehend a visual sensible. In a proposition of the form "I see A," where A is a name or description of some physical object, though, if this proposition is to be true, there must be some visual sensible, B, which I am directly apprehending, yet the proposition "I see A" is certainly not always, and probably never, identical in meaning with the

proposition "I directly apprehend B." In asserting "I see A" we are asserting not only that we directly apprehend some sensible but also something else about this sensible—it may be only some proposition of the form "and this sensible has certain other properties," or it may be some proposition of the form "and *I know* this sensible to have certain other properties." Indeed we have not only to distinguish that sense of the word "perceive" in which it is equivalent to "directly apprehend," from *one* sense in which we can be said to perceive a physical object; we have also to distinguish at least two different senses in which we can be said to perceive physical objects, different both from one another and from "directly apprehend." For it is obvious that though I should be said to be now seeing *the half-crown*, there is a narrower, and more proper sense, in which I can only be said to *see* one side of it—not its lower side or its inside, and not therefore the whole half-crown.

The other principle, which we can lay down to start with is (β) that my knowledge of all the five propositions (*a*) to (*e*), is based, in the last resort, on experiences of mine consisting in the direct apprehension of sensibles and in the perception of relations between directly apprehended sensibles. It is *based* on these, in at least this sense, that I should never have known any of these propositions if had never directly apprehended *any* sensibles nor perceived any relations between them.

What, in view of these two principles, can be the sense in which my five propositions are true?

(1) It seems to me possible that the only *true* interpretation which can be given to any of them is an interpretation of a kind which I can only indicate rather vaguely as follows: Namely, that all of them express only a kind of fact which we should naturally express by saying that, *if* certain conditions were fulfilled, I, or some other person, *should* directly apprehend certain other sensibles. For instance, the only *true* thing that can be meant by saying that I really see *coins* may be some such thing as that, *if* I were to move my body in certain ways,

I should directly apprehend *other* sensibles, *e.g.* tactual ones, which I should not directly apprehend, as a consequence of these movements, if these present visual experiences of mine were mere hallucinations or experiences of "images." Again, the only true thing that can be meant by saying that the upper sides of the coins are *really* approximately circular, may be some such thing as that, if I were looking straight at them, I should directly apprehend circular sensibles. And similarly, the only true interpretation of (c) may be some such fact as that, *if* I were to turn the coins over, or break them up, I *should* have certain sensations, of a sort I can imagine very well; of (d) that, *if* I were at an equal distance from the half-crown and the florin, the sensible, I should then see corresponding to the half-crown, would be bigger than that corresponding to the florin, whereas it is now smaller; of (e) that, *if*, when my eyes were closed, they had been open instead, I should have now certain sensibles.

It is obvious, indeed, that if any interpretation on these lines is the only true interpretation of our five propositions, none of those which I have vaguely suggested comes anywhere near to expressing it in its ultimate form. They cannot do so for the simple reason that, in them, the conditions under which I *should* experience certain other sensibles are themselves expressed in terms of *physical objects*, and not in terms of sensibles and our experience of them. The conditions are expressed in such terms as "if I were to move my body," "if I were to look straight at the coins," "if I were to turn the coins over," etc.; and all these are obviously propositions, which must themselves again be interpreted in terms of sensibles, if our original five propositions need to be so. It is obvious, therefore, that any *ultimate* interpretation of our five propositions, on these lines, would be immensely complicated; and I cannot come anywhere near to stating exactly what it would be. But it seems to me possible that *some* such interpretation could be found, and that it is the *only* true one.

The great recommendation of this view seems to me to be that it enables us to see, more clearly than any other view can, how our knowledge of physical propositions can be based on our experience of sensibles, in the way in which principle (β) asserts it to be. If, when I know that the coins are round, all that I know is some such thing as that if, after experiencing the sensibles I do now experience, I were to experience still others, I should finally experience a third set, we can understand, as clearly as we can understand how any knowledge can be obtained by induction at all, how such a knowledge could be based on our previous experience of sensibles, and how it could be verified by our subsequent experience.

On the other hand, apart from the difficulty of actually giving any interpretation on these lines, which will meet the requirements, the great objection to it seems to me to be this. It is obvious that, on this view, though we shall still be allowed to say that the coins *existed* before I saw them, are *circular* etc., all these expressions, if they are to be true, will have to be understood in a Pickwickian sense. When I know that the coins existed before I saw them, what I know will not be that anything whatever existed at that time, in the sense in which those elliptical patches of colour exist now. *All* that I know will be simply that, since the elliptical patches exist now, it is true, that, *if* certain unrealised conditions had been realised, I should have had certain sensations that I have not had; or, *if* certain conditions, which may or may not be realised in the future, were to be so, I *should* have certain experiences. Something like this will actually be the *only true* thing that can be meant by saying that the coins existed before I saw them. In other words, to say of a *physical object* that it *existed* at a given time will always consist merely in saying of some sensible, *not* that *it* existed at the time in question, but something quite different and immensely complicated. And thus, though, when I know that the coins exist, what I know will be merely some proposition about these sensibles which I am

directly apprehending, yet this view will not contradict principle (α) by *identifying* the coins with the sensibles. For it will say that to assert a given thing of *the coins* is not equivalent to asserting the *same thing* of the sensibles, but only to asserting of them something quite different.

The fact that these assertions that the coins exist, are round, etc., will, on this view, only be true in this outrageously Pickwickian sense, seems to me to constitute the great objection to it. But it seems to me to be an objection, only, so far as I can see, because I have a "strong propensity to believe" that, when I know that the coins existed before I saw them, *what* I know is that something existed at that time, in the very same sense in which those elliptical patches now exist. And, of course, this belief *may* be a mere prejudice. It *may* be that when I believe that I *now* have, in my body, blood and nerves and brain, *what* I believe is only true, if it does *not* assert, in the proper sense of the word "existence," the *present* existence of anything whatever, other than sensibles which I directly apprehend, but only makes assertions as to the kind of experiences a doctor *would* have, if he dissected me. But I cannot feel at all sure that my belief, that, when I know of the present existence of these things (as I think I do), I am knowing of the present existence (in the proper sense) of things other than any sensibles which I or any one else am now directly apprehending, is a mere prejudice. And therefore I think it is worth while to consider what, if it is not, these things, of whose existence I know, can be.

(2) It is certain that if, when I know that that half-crown existed before I saw it, I am knowing that something existed at that time in other than a Pickwickian sense, I only know this something *by description*; and it seems pretty clear that the description by which I know it is as *the* thing which has a certain connection with this sensible which I am now directly apprehending. But *what* connection? We cannot simply say, as many people have said, that by "that half-

crown" I mean *the* thing which *caused* my experience of this sensible; because events which happened between the half-crown and my eyes, and events in my eyes, and optic nerves, and brains are just as much *causes* of my experience as the half-crown itself. But it may perhaps be the case that the half-crown has some particular *kind* of causal relation to my experience, which these other events have not got—a kind which may be expressed, perhaps, by saying that it is its "source." And hence, when I know that that half-crown is circular, I may perhaps be knowing that the *source* of this experience is circular.

But what sort of a thing can this "source" be?

One kind of view, which I think is very commonly held, is that it is something "spiritual" in its nature, or something whose nature is utterly unknown to us. And those who hold this view are apt to add, that it is not really "circular," in any sense at all; nor is the "source" of my half-crown experience, in any sense at all, "bigger" than that of my florin experience. But if this addition were seriously meant, it would, of course, amount to saying that propositions (b) and (d) are not true, in any sense at all; and I do not think that those who make it, really mean to say this. I think that what they mean is only that the only sense in which those "sources" are circular, and one bigger than the other, is one in which to say this merely amounts to saying that the sensibles, which they *would* cause us to experience, under certain conditions, *would* be circular, and one bigger than the other. In other words, in order to give a true interpretation to the propositions that the coins are circular and one bigger than the other, they say that we must interpret them in the same kind of way in which view (1) interpreted them; and the only difference between their view and view (1), is that, whereas *that* said that you must give a Pickwickian interpretation *both* to the assertion that the coins *exist*, and to the assertion that they are *circular*, they say that you

must *not* give it to the former assertion, and must to the latter.

To this view my objection is only that any reason there may be for saying that the "sources" exist in other than a Pickwickian sense, seems to me to be also a reason for saying that they are "circular" in a sense that is not Pickwickian. I have just as strong a propensity to believe that they are really circular, in a simple and natural sense, as that they exist in such a sense: and I know of no better reason for believing either.

(3) It may be suggested, next, that these "sources," instead of being something spiritual in their nature or something of a nature utterly unknown, consist simply of sensibles, of a kind which I have previously tried to define; namely of all those sensibles, which anybody *would*, under the actual physical conditions, experience in *sensations proper* of which the half-crown and the florin were the source, *if* their bodies were in any of the positions relatively to those coins, in which they would get sensations from them at all. We saw before that it seems *possible* that all these sensibles do really exist at times when they are not experienced, and that some people, at all events, seem to have a strong propensity to believe that they do. And in favour of the view that some such huge collection of sensibles *is* the upper side of the half-crown, is the fact that we do seem to have a strong propensity to believe that any particular sensible, which we directly apprehend in looking at the upper side of the half-crown, and of our direct apprehension of which the upper side is the source, is *in the place* in which the upper side is. And that *some* sense might be given to the expression "in the same place as," in which it could be true that sensibles of all sorts of different shapes and sizes, and of all sorts of different colours, were in the same place at the same time, seems to me to be possible. But the objection to this view seems to me to be the same as to the last; namely that if the upper side of the half-crown were identical with such a

collection of sensibles, then the only sense in which it could be said to be "circular," or bigger than that of the florin, would certainly be very Pickwickian, though not the same as on that view.

(4) If, for the reasons given, we reject both (1), (2), and (3) as interpretations of our five propositions, the only alternative I can think of that remains, is one which is roughly identical, so far as I can see, with Locke's view. It is a view which asserts that the half-crown and the florin really did exist (in the natural sense) before I saw them; that they really are approximately circular (again in the natural sense); that, therefore, they are not composed of sensibles which I or others should directly apprehend under other conditions; and that therefore also neither these sensibles (even if such do now exist) nor those which I am now directly apprehending are in the place in which the coins are. It holds, therefore, that the coins do really *resemble* some sensibles, in respect of the "primary" qualities which these have; that they really are round, and one larger than the other, in much the same sense in which some sensibles are round and some larger than others. But it holds also that no sensibles which we ever do directly apprehend, or should directly apprehend, if at a given time we were in other positions, are *parts* of those coins; and that, therefore, there is no reason to suppose that any parts of the coins have any of the "secondary qualities"—colour, etc.—which any of these sensibles have.

On this view, it is plain, there is nothing to prevent us from holding that, as suggested in I (3), all sorts of unexperienced sensibles do exist. We are only prevented from holding that, if they do, those which have the same source all exist in the *same place* as their source. And the natural view to take as to the status of sensibles generally, relatively to physical objects, would be that none of them, whether experienced or not, were ever in the same place as any physical object. That none, therefore, exist "anywhere" in physical space; while, at the

same time, we can also say, as argued in I (2), that none exist "in the mind," except in the sense that some are directly apprehended by some minds. And the only thing that would need to be added, is that some, and some only, *resemble* the physical objects which are their source in respect of their shape.

To this view I can see no objection except the serious one that it is difficult to answer the questions: How can I ever come to know that these sensibles have a "source" at all? And how do I know that these "sources" are circular? It would seem that, if I do know these things at all, I must know *immediately*, in the case of *some* sensibles, both that they have a source and what the shape of this source is. And to this it may be objected that this is a kind of thing which I certainly cannot know immediately. The argument in favour of an interpretation of type (1) seems to me to rest wholly on the assumption that there are only certain kinds of facts which I can know immediately; and hence that if I believe I know a fact, which is not of this kind, and which also I cannot have learnt immediately, my belief must be a mere prejudice. But I do not know how it can be shown that an assertion of the form: Facts of certain kinds are the only ones you can know immediately; is itself not a prejudice. I do not think, therefore, that the fact that, if this last view were true, we should have to admit that we know immediately facts of a kind which many people think we cannot know immediately, is a conclusive objection to it.

II. *By* G. F. STOUT.

Both Mr. Moore and I have for many years spent much time and labour on the group of problems which is now to be discussed between us. We initially set out with views so divergent as apparently to exclude all hope of reaching agreement. This is no longer so to nearly the same degree as in the past. We are now in essential agreement on some points on which we once essentially differed. In some other respects there is still fundamental divergence. But as far as regards one great question, our agreement is sufficient to yield a good basis for further discussion. We can proceed on the basis of common presupposition in dealing with the nature of the knowledge of physical objects by way of sense-perception. I shall therefore, in what follows, mainly confine myself to this topic, referring to other questions only in so far as they seem relevant to it.

On pp. 372 and 373 of his paper, Mr. Moore lays down two principles which I accept without reservation. He states both with special reference to a particular example. But it is obvious that he intends them to be taken universally. The first may be stated as follows:—" *The sensibles which we directly apprehend in perceiving a physical object are never simply identical with the physical object itself or with any physical part of it or with any quality belonging to it.*"* The second principle is that *what we know through sense-perception of a physical object is based in the last resort on the direct apprehension of sensibles and the perception of relations between directly apprehended sensibles.*

Under the guidance of these two fundamental principles, Mr. Moore proceeds to discuss various typical theories of the knowledge we have by way of sense-perception of the physical objects perceived. One of these theories seems virtually

* I am not perfectly sure that Mr. Moore intends to assert that the sensibles are never identical with any *quality* of the thing. But I think that he must mean this.

identical with Mill's well known doctrine of matter as constituted by a fixed and systematic order of actual and possible sensations. It is distinctively characterised by the consistent attempt to dispense with any reference in sense-perception to anything distinct from and independent of the possible and actual sense-experiences of the percipient subject. Mr. Moore thinks it possible that this view may be true. But he admits that neither he himself nor anyone else has been able to state it in a consistent way. He also finds in it other serious difficulties which lead him not indeed to reject it absolutely, but to regard it only as a last resource on which he may fall back if no better alternative can be found. Here, I differ from Mr. Moore only in being more decidedly negative. I cannot admit that the permanent possibility theory is tenable in any form. Without going so far as this, it is plain that Mr. Moore is strongly inclined to look in another direction for a satisfactory interpretation of the facts. The type of theory which he seems to prefer is that according to which each sense apparition is, from the outset, connected with an immediate knowledge of it as related to its source in an existence beyond itself. Here also I agree. Mr. Moore next discusses three special forms which the source theory may assume. One of these he distinctly prefers to the others, and here again I find myself at one with him on the most vital points. I agree with him as concerns the following essential positions. (1) What is primary in our knowledge of physical objects through sense-experience is not merely "direct apprehension" of sensibles, but also direct knowledge that these sensibles are connected with existence beyond themselves. (2) Our primary knowledge of the relation of sensibles to their source includes a knowledge of the nature of the source as in some respects akin to the sensibles; this implies that the source is complex and that there are relations within it corresponding to relations between the sensibles which are referred to it.

In Mr. Moore's special development of this general doctrine

I find much to disagree with. The main points at issue may be provisionally stated as follows. (1) According to Mr. Moore, the correspondence in nature between sensibles and their source is restricted to certain sensibles and is not found in the case of others essentially akin to these. I, on the contrary, hold that the correspondence exists for all sensibles in accordance with one uniform principle. (2) For Mr. Moore, the original reference of sensibles to a source does not include the whole source but only that part of it which enters into the constitution of what we call, in ordinary language, the perceived object—the thing said to be seen, felt, tasted or smelled. I, on the other hand, hold that the original reference is to the whole source indiscriminately and that it is only by a further process that we come to distinguish that part of it which belongs to the particular thing perceived from other parts. My third divergence from Mr. Moore concerns (3) the definition of what is ordinarily meant by a physical object. As I understand him, he simply identifies the physical object with the source, and the nature of the physical object with the nature of the source. On this view the sensibles with which we are directly acquainted, though they are essential conditions of our knowing a physical thing, in no way enter into its constitution. I say, on the contrary, that the physical object as perceived or imagined includes not only the source but the nature of the sensibles so far as the sensibles express the nature of the source—so far as they stand to the source in the relation of being its sensible appearances, actual or possible. I thus include in my conception of the physical object all that the permanent possibility theory of Mill or Berkeley can say of it. This may be expressed by saying that for me the physical object, as such, is essentially a phenomenon. In what follows I have to develop the source theory, as thus defined, so as to show that it is tenable. I cannot, of course, within my limits, do this in full detail. It will be sufficient if I attempt to meet certain difficulties on which Mr. Moore lays stress. Mr. Moore finds it difficult to answer two questions. (1) How can we know

that sensibles have a source at all? (2) How can we know that the source is akin in nature to the sensibles, or at least to some of them? Such knowledge must ultimately be immediate. But "this seems to be a kind of thing which I certainly cannot know immediately." The precise nature of the difficulty Mr. Moore does not attempt to define. I take it that there are two stumbling blocks in his way. First, he finds it hard to understand how the knowledge of sensibles, in general, can involve knowledge of a correlated existence other than their own—how the scratch can be aware of the thorn. In the second place, he probably finds a special difficulty in this knowledge being, as he supposes, limited only to certain sensibles and not extended to others essentially similar in nature and mode of occurrence.

Beginning with the first problem, we have to inquire how it is possible to know that any directly apprehended sensible is correlated with an existence beyond its own. Let us commence by considering a parallel case. Mr. Moore, in explaining the distinction between *thought* and what he calls *direct apprehension*, refers to the relation of an image to the primary sensible of which it is an image. To take his own illustration, when I look at a black mark, there is actually present to my mind a certain visual apparition, so that I directly apprehend it. If I now turn my head away the original visual apparition is no longer actually present. Its place is now filled by what is called a mental image. It is this image that I now directly apprehend and not the primary sensible. Yet I am still, in a certain way, cognisant of the original apparition. In the very act of directly apprehending the image, I think of or remember the primary sensible. I am not merely cognisant of the image, but cognisant of it as standing in a peculiar relation to the previous existence of the primary sensible. I am aware of the image as in a peculiar fashion conditioned by and derived from the primary sensible. I am aware of it as more or less like and as more or less unlike the primary sensible in quality, in

intensity and in the relations of its component parts. All this implies that I am in some manner aware of the primary sensible when it is no longer actually present as it was when it first existed. Following the usage of ordinary language, we may describe this mode of awareness by saying that we are not merely thinking of the image, but are, in Mr. Moore's phrase, directly apprehending it.

There seems to me to be a very important analogy between our knowledge of the connexion of image and primary sensible and our knowledge of the connexion of a primary sensible and its source. In the first place, there is in both cases the thought of a particular existence other than that of the sensible which we directly apprehend, and this other existence is not, at the moment, directly apprehended. In both cases the thought of this existence is specified and determined by the nature and existence of the actually present sensible. It is in both cases thought of as connected, in certain respects, with the actually present sensible. In particular, it is in both cases thought of as the source of this sensible, though in different ways. Here it may be objected that there is a vital difference which destroys the analogy in its most fundamental point. It may be urged that whereas, in the case of the image, we have already apprehended directly the corresponding primary sensible in previous experience, in the case of the supposed source of the primary sensible itself, we have had no such previous experience. I reply that in the present moment in which we directly apprehend only the image, our direct apprehension of the primary sensible is entirely gone. It is no longer a factor actually forming part of the present situation. It operates only indirectly, inasmuch as it conditions the direct apprehension of the present image or of some equivalent present existence. It is only this present existent which supplies a cue to thought in referring to the existence of the primary sensible and in determining its nature, just as it is only the primary sensible itself which supplies a cue

to thought in referring to the existence of its source and in determining the nature of its source.

Note next, that both the knowledge of the image in relation to its primary sensible and the knowledge of the primary sensible in relation to its source are immediate. In both cases, if we were initially without such knowledge, there seems to be no process of inference by which we could acquire it. At this point, I must take note of a serious inconvenience besetting Mr. Moore's phrase "direct apprehension." It is natural to use the term "apprehension" in a very wide sense, so as to cover all kinds of cognition. Hence, when "direct apprehension" is contrasted with mere thought, it seems to be implied that thought, as such, is indirect. But this is not so, if we mean by "indirect" anything which would ordinarily be called inference, or if we take it to involve uncertainty. There is only one sense in which thought, as such, need be indirect.* In thinking of a particular existent, we may know directly *that* it exists, that it is such and such and so and so related, though the particular existent itself is not, at the moment, an actual apparition in consciousness. Our knowledge of it may be called indirect, in the sense that we know it only inasmuch as we know propositions about it—inasmuch as we know "that it exists and is such and such." But the propositions about it may themselves be known immediately and, so far as this is the case, our knowledge of it is in another sense direct. Thus when I have just felt a pang of toothache, I may know immediately that I have felt it, and so far my knowledge of it is immediate. But the pang is not itself actually present to consciousness in the way in which it was present when it was actually being felt. The kind of presence which it has in actually being felt I have been in the habit of calling "*existential* presence to consciousness." Existential

* I should myself maintain that there is only one sense in which thought *can* be indirect.

presence may be either simply identified with Mr. Moore's "direct apprehension" or regarded as an essential condition of it. If we choose the second alternative, direct apprehension may be defined as "that kind of apprehension which depends on existential presence."*

A third point of analogy between the reference of image to primary sensible and the reference of primary sensibles to a source is to be found in the initial absence, in both cases, of anything in the nature of reflective analysis, separately marking off from each other the various factors involved. In ordinary experience, apart from special motives, the mind does not, explicitly and separately, set before itself the propositions that the image is distinct from the primary sensible and stands in certain relations to it. It is true that it knows the primary sensible only as this is related to the image. But it does not know that it knows the primary sensible only in relation to the image. What is before it is, for the most part, only the unanalysed complex including image and primary experience and their connexion, without separate discrimination of these factors. Analysis is fully and adequately carried out only on critical reflexion, the sort of reflexion which Mr. Moore and I are now attempting. The same holds good for the reference of primary sensibles to a source. Here, too, what the mind is aware of is initially an unanalysed complex including sensible and source and their connexion. It does not separately formulate to itself the propositions that the source is an existence distinct from the sensible and that they are related in a certain way.

This original and habitual tendency to think the whole complex confusedly, without analysis into its constituent factors, is apt more or less to influence us even when we do attempt to analyse. We may be tempted, for example, in the case

* It is the second alternative which I take to be the true one. Here I differ from Mr. Moore. But it would take too long to discuss the question, important as it is, within the limits of the present paper.

of the image, to suppose not only that we can distinguish it from the primary sensible, but also that we can isolate it so as to be able to think of it as existing by itself, entirely stripped of all relation to primary sense-experience. So far as I can discover, this is quite erroneous. We are never able to apprehend an image without regarding it as the image of something.* The reason why we may ignore this is that the reference to the primary experience is so familiar and so much a matter of course that we fail expressly to take separate notice of it. If we then proceed to put the question to ourselves whether the image, as such, necessarily involves the thought of the primary sensible, we are bound to get a negative answer. For the reference to the primary sensible has already been unwittingly included by us in the image as we conceive it, and cannot therefore be found beyond it. We shall be in the position of a man who is looking for his spectacles while, all the time, he has them on. He cannot find them so long as, in looking for them, he is looking through them. If, after this fallacious mental experiment, we remind ourselves that as a matter of fact the image must in some way carry with it the immediate knowledge of a primary sensible, this fact will appear strange. The connexion of the image with the primary sensible will appear not to be the kind of fact which we can know immediately. This sort of fallacy is, I think, more commonly committed in the treatment of other questions. For instance, it seems to me to pervade Hume's discussion of causal connexion. Above all, it is likely to be a source of confusion in the attempt to examine the connexion of a primary sensible and its source. If this connexion is not, initially and in ordinary experience, implicitly presupposed rather than explicitly distinguished, we may easily, even in the act of seeking to

* Even when the image is freely constructed by the imagination, we still are aware of it as reproducing primary experience in a modified form, and we still think of a possible primary experience as corresponding to it.

distinguish, be all the time unwittingly assuming it, in such a way that we shall really be endeavouring to distinguish it from itself. The attempt must fail. What we take to be merely the primary sensible will seem to be something relatively loose and separate, having nothing in its own nature and existence to connect it with an existence beyond itself. I would suggest that this may be part of the reason why Mr. Moore has difficulty in admitting that the connexion of primary sensible and source belongs to the class of things which we can know immediately. It is not, however, in any case, the whole reason. As I shall point out later on, there is also another very important reason which certainly does influence Mr. Moore.

So far, I have attempted to meet the supposed difficulty of our having an immediate knowledge of primary sensibles, as correlated with a source, only by referring to an analogous case which seems clearer and less open to doubt. But both cases fall under the general head of what Hume would call knowledge of matter of fact which anticipates experience, and what Kant would call knowledge of synthetic propositions *a priori*. Can all such knowledge be brought under a common principle? In my opinion it can. Here Mr. Moore and I have common ground to start from. We both, I believe, agree that a mere appeal to the constitution of the knowing mind can supply no explanation except in so far as it is the nature of the mind to know what has being, in relative independence of its coming or ceasing to be known. We both agree in denying mere being for thought as contrasted with what has being apart from thought. From this common postulate, it seems to follow that no more ultimate reason can be given for the possibility of anything being known than that it has being and that a mind is there to know it. But this principle is by itself insufficient to account for the actual development of our knowledge. For, by itself, it does not explain why we are not omniscient—why we do not know, in detail, all that is. To answer this question,

we must take account also of the fundamental principle of empirical philosophy, the principle that knowledge is throughout limited by experience. This means that we have cognisance of the rest of the Universe only in so far as we are cognisant of its connexion, however indirect this may be, with those particular existents which, in my phrase, are existentially present to consciousness, or, in Mr. Moore's language, are directly apprehended. If, now, these particular existents were in their own nature self-complete and self-contained, so as to imply nothing beyond themselves, if each were a universe in itself, we could not through knowing them have knowledge of anything beyond them. We should thus be cognisant only of the particular existents which happened at any moment to be existentially present. We should be confined to an infinitesimally small portion of what we come to know as the real world.* But if we find a difficulty here, it is entirely of our own making. It arises from a perfectly arbitrary assumption—the assumption that the existentially present data are in their own nature self-complete and self-contained. If, in their own nature, they are in various ways and respects incomplete existences, we need no further reason why we should know them as, in various ways and respects, incomplete, and, therefore, as connected in various ways and respects with existence beyond their own. It may be objected that reflective analysis apparently fails to discover the incompleteness. I reply that, so far as this may be so, the fault lies in the inadequacy or confusion of the reflective analyses. If, in critical reflexion, we are expecting a fresh revelation of something unknown before, we are bound to be disappointed. The original unreflective act of referring an existentially present sensible to a correlated existence beyond it, is itself the immediate knowledge of the sensible as incomplete. On the other hand, in the attempt to rediscover distinctly what

* Whether even this could be known, under the assumed conditions, is a further question, which I should answer in the negative.

we thus already know indistinctly, we are prone to fall into the fallacy which I have already discussed. We are prone to assume, unwittingly, what we are trying to find and then to look for it elsewhere, as if we had not already presupposed it. We are then, as I have said, in the position of a man who is looking *through* his spectacles *for* his spectacles.

There remains a special difficulty, which requires separate treatment, in dealing with the reference of primary sensibles to a source. The difficulty is that the relation to a source does not seem to be uniform for all primary sensibles or even for all of the same class. Consider, for example, visual experience. We may, in dreams and hallucinations, directly apprehend a visual apparition, which is not, in any ordinary sense, the visual appearance of a perceived physical object, present to the senses. We are always, under such conditions, impelled to think of the presence of a perceived object, and it is true that, apart from special reasons to the contrary, we believe that it actually exists. But what is important is that the object which we seem to perceive may not exist; that we may become convinced for sound reasons that it does not exist, and that when we are so convinced we have no insuperable difficulty in accounting for the primary sensible in other ways, *e.g.*, by tracing it to physiological conditions not involving the existence of a perceived object of which it is the sensible appearance. The primary sensible, in such instances, seems to be recognised as "loose and separate" from the existence of a source in any object perceived by means of it. *Primâ facie*, this seems to be a very serious objection to any theory which asserts an immediate knowledge of primary sensibles as having their source in objects which need not be otherwise known to us. Another form of the same difficulty is clearly brought out by Mr. Moore. Even when a physical object really is seen, its visual appearance is variable, and some of its variable appearances yield a much more adequate and accurate knowledge of their source than others. How are we

to account for this difference between primary sensibles, fundamentally alike in their own nature, on the view that the knowledge of their connexion with a source is original and immediate ?

It seems to me that difficulties of this kind can be satisfactorily met. They are due to an over hasty assumption. They arise from the precipitate assumption that the reference of primary sensibles to a source is confined only to that part of the source which may be contained in the particular physical object which is perceived by means of them, the particular object of which they are the sensible appearance, the particular tree, stone, or animal which is said to be seen or touched or heard. As against this, I would maintain a radically different view. My position is that what is ordinarily called the perception of this or that particular thing forms only one special development due to special conditions of the original reference to a source. To explain this, it is necessary to begin by pointing out that our knowledge of a physical world is not, in any case, constituted merely by apprehending a multiplicity of separate sensibles, each in relation to an existence beyond itself. It also involves the gradual discovery of the connexion of these items with each other. If we agree to call a particular primary sensible, together with whatever information it may convey concerning the existence and nature of its source, a primary datum of sense, then we may say that the development of our knowledge of external objects involves, from the outset, the discovery of interconnexion of such primary data.

For our present purpose it is of chief importance to distinguish the ways in which this takes place. The first is essential to what we ordinarily call perceiving this or that particular thing. The same piece of sugar may be perceived in many distinct perceptual acts, each involving a different and more or less dissimilar primary sensible. I may see it, touch it, or taste it; and in seeing or touching it I may, on different occasions, have an indefinite variety of visual or tactual

sensations. None the less I take myself to be perceiving, throughout, only one and the same piece of sugar. Now, since the primary sensibles involved in my varying perceptions are not the same or similar, it must be the source which is taken to be identical. The primary data of sense are correlated with each other inasmuch as they are regarded as having a source in common though the primary sensibles are distinct and different. This is expressed, in ordinary language, by saying that in all of them the same thing is perceived, though it is perceived under varying sensible appearances. Of course the thing, and consequently the source, is not taken to be simple and indivisible. It has different qualities and distinguishable parts. Some of its varying sensible appearances may be appearances of the same quality of the same part, as when we first perceive the same extension by sight and then by touch. Some may be appearances of different qualities, as when we first touch the sugar and then taste it. Some may be appearances of different parts, as when we first look at one side of a thing and then, going behind it, look at the opposite side.

I have said this reference of primary sensibles to a common source is essential to what we ordinarily mean by perceiving a particular thing. In ordinary usage, when I say that I myself or that someone else perceives a piece of sugar, this is most naturally taken to imply that the sugar is perceived as being sugar. But this, of course, presupposes that the present sensible appearance is recognised as connected with many other possible appearances of the same object. We may, however, also speak of perceiving a thing where there is no recognition of it as belonging to a special class or kind. We then usually add an explanation. We say, for instance, "I saw a bird, but without knowing it to be a bird." In such instances as well as in definite recognition there is still correlation of the present datum of sense with other data, on the basis of past experience, though this correlation is of a vaguer and more general kind. We are at least aware that the thing has

other distinctive characters ascertainable by further observation, though we cannot specify in advance what these are. Further, there is a certain general scheme or plan, broadly similar for all perceived things, in accordance with which their various perceptible qualities and parts are connected with each other, and in accordance with which we can pass from one sensible appearance of the same thing to others. This, of course, presupposes that the primary sensible which we directly apprehend has a meaning acquired in the course of past experience. Let us now retrace the course of mental development and consider the position of a mind which has not yet learned to correlate its sense-data by referring different sensibles to a common source. Can we properly say, taking the term perception in its ordinary sense, that such a mind perceives this or that particular object? So far as primary sensibles are locally distinct and separable by relative change of position, it will refer them to relatively different sources. It will, however, have no means of connecting different sensibles with the same source. But, inasmuch as this is part of what we ordinarily mean by *perceiving*, it seems plain that if we choose to use the term in such a case, it will be by a more or less arbitrary extension of its usual meaning. If we consider the position of the undeveloped mind from the basis of our own developed knowledge, we shall be tempted to speak of it as perceiving this or that. It directly apprehends, as we presume, a certain primary sensible, and it refers this to a source. This source we ourselves know to be a certain piece of sugar. Hence we may say that there is here a case, however rudimentary, of the perception of a piece of sugar. But we must be on our guard against the psychologist's fallacy of attributing to the primitive mind knowledge which we possess, but which it does not possess. We must put ourselves at the point of view of the undeveloped mind and enquire whether it really refers the primary sensible to its source in the sugar, in the same way as we do when we perceive a particular physical

object. Now there seems to me to be a fundamental difference here which leads us to the heart of our problem. The primitive mind, we suppose, directly apprehends a primary sensible, and in so doing refers it to a source. But there are no motives or conditions which could lead it to make any distinction or reservation in this reference to a source. In particular, there is nothing which could lead it to single out one part of the source from others and refer distinctively to this. The reference will be to the source in general. But in ordinary perception the reference is only to part of the source; it is limited to this by the way in which different sensibles are correlated with each other as having a common source. It is only a part of the source of each sensible which can be common to it and the others; and even this part is only an indirect source, inasmuch as its connexion with sense-experience is mediated through a series of intervening conditions.

We find cogent evidence for both these statements in our developed knowledge of the physical and physiological conditions of sense-perception. From this point of view, we can see that the perceptual correlation of different sense-data is possible only under one condition. It is possible only if the sense-organs are freely movable relatively to the thing perceived and therefore spatially external to it. We know that the primary sensibles through which an object is perceived are experienced only when and so far as the object, directly or indirectly, acts on the sense-organ and there gives rise to a series of processes ending in a certain change in a certain portion of the nervous system. We know that the primary sensible constantly varies according to the varying character of the processes in the sense-organ and nervous system by whatever condition such variations may be produced. We know that when there actually is no perceived object, similar sense-experiences may arise in the way of dreams and hallucinations and recurrent sensations, conditioned only by the state of our bodies. Further, our general knowledge of the executive order

of nature shows us that when the primary sensible is the appearance of a perceived object, this object operates only through a chain of processes which do not, in giving rise to the sense-experience, produce any corresponding change in the object itself. They no more affect the perceived physical thing than the breaking of a window affects the body of the man who throws a stone at it. None the less, as I have said, the primary sensible, which we directly apprehend, is conditioned in its nature by the varying character of such processes. From such considerations taken in their interconnexion, it seems to me to follow irresistibly,* first, that only part of the source of the primary sensible through which we perceive a thing belongs to the separate constitution of the thing itself; and, secondly, that even this part is not directly but more or less remotely connected with the relevant sense-experiences.

These propositions may be maintained on the basis of our acquired knowledge of the order of the physical world. But we have still to consider how the interval between our present point of view and that of a more primitive consciousness comes to be crossed through a gradual development. In dealing with this problem, I cannot stir a step without presupposing the reference of primary sensibles to a source and without also presupposing that the reference is initially to the whole source and that to the end it includes a reference to the whole source. I have to show how this total source becomes more or less definitely distinguished into parts, and how one part is taken to belong to the thing perceived, while the other parts are taken to belong to the constitution of objects perceptible by means of other primary sensibles. The principle on which I proceed is that all such distinctions arise in the process of correlating primary sense-data with each other. This assumes various forms. One of these is correla-

* Perhaps the conclusion is not absolutely necessary; but it could only be evaded, so far as I can see, by a series of complicated, arbitrary, and perfectly unverifiable hypotheses.

tion by reference to one source. This depends, in part, on the experience of continuous change in what is recognisable as the same sensible in different phases of its existence, as contrasted with the simultaneous or successive occurrence of different sensibles. We may illustrate by the difference between variation in the intensity of a sound or the brightness of a colour as contrasted with the transition from one sound or colour to another, or from a colour to a sound. But by far the most important case, under this head, is that of continuous change of place, as when a visual apparition shifts its place in the field of visual sensation or a tactual apparition shifts its place in the field of tactual sensation, when, for example, a bird flies across the field of view or a fly creeps over the skin. Under such conditions the varying phases of the same sensible are referred to the same source. This, however, is only an initial step, and it is by itself far from accounting for that correlation of sensory data which is involved in what we ordinarily call the perception of a thing. Further advance is conditioned by the discovery of a certain uniform and systematic concomitance and co-variation of different sensibles, such that change in one entails change in others. We may take, as a typical and most important case, the correspondence and co-variation of the extension, shape, relative position, and motion of tactual and visual sensibles when the same thing is both seen and touched. My position is that such correspondence is the original motive and evidence for referring different sensibles to a common source. In contrast to this, there is a fundamentally different group of motives which leads to the correlation of sense-data by reference to causal relations between distinct things, each of which is constituted by its own sense-appearance as connected with others by their common source. The cue for this is still afforded by regular conjunctions discoverable in the order of primary sensibles. But the order is of a different kind. It is an order connecting sensibles locally external to and separable

from each other, and it is conditioned by variable local relations. The sense-apparition of a flame in continuous proximity to that of a sheet of white paper is followed by the apparition of the burning paper. But this does not follow, in the same way or with the same immediacy, if the apparition of the paper and that of the flame are separated by intervening sensibles. If the sequence of sense-experiences were due to their having a common source, it would not be contingent in this way on variable local relations. Change in the common source would always be attended by correlated changes in its sensible appearances, independently of such conditions. Where such conditions are indispensable the only mode of interpretation open either to ourselves or to the primitive mind is that which presupposes interaction between distinct things. Our knowledge of the causal order progresses in detail; it brings with it a further development of the knowledge of the union of different qualities in the same thing. These qualities come to include an increasing number of what Locke calls "active and passive powers," *i.e.*, characteristic modes in which a thing affects and is affected by other locally distinct things in variable local relations. There thus arise further motives for referring a group of sensibles to the same source. Change in part of the group not only involves change in other parts; it also involves change of active and passive powers.

The original reference of primary sensibles to a source is developed in detail in these two ways, partly by reference of different sensibles to one source, partly by reference to distinct sources in interaction with each other. But there still remains a certain class of regular and systematic variations in our sense-experience which is not accounted for in either of these two ways. I refer, of course, to variations in the primary sensibles which do not involve and are not taken to involve any corresponding change or difference in the thing which we perceive by means of these primary sensibles—which do not and are not taken to involve change or difference in the source

so far as the source belongs to the constitution of the particular thing perceived. Here two questions confront us: (1) How does the primitive mind come to be aware of variations in the sense-appearance as occurring independently of change or difference in the perceived object? (2) How does it account for these variations by reference to a correspondingly variable source? The answer to the first question is that these variations are not found to be correlated with corresponding variations in other primary sensibles in such a way as to suggest reference to the same source; also that they are found to make no difference to the way in which a perceived thing acts on or is acted on by others,—to its active and passive powers. The answer to the second question is that they are referred to corresponding variations in the body of the percipient and in its variable relations to the perceived object. The motives for this are present and obvious from the outset. From one point of view, the body of the percipient is a member of the general causal order, so that it interacts with things outside it, as these interact with each other. But, besides this, it is also, from the outset, found to occasion, in a regular way, another class of sensible changes which cannot be thus interpreted. Movements of the body or its parts which are not such as to produce any relevant change in things outside it are none the less constantly and regularly accompanied by obvious and impressive changes in sense-experience. The simplest case is that in which we successively bring within the range of sense-perception different things or different parts or qualities of the same thing. This happens, for instance, when I turn my eyes from the paper before me to a book on my shelves, or when I first see the paper and then touch it with my hand. The transition from one primary sensible to another does not in such cases involve any discoverable change or transition in the things perceived. The same holds good for the coming and going of primary sensibles in such instances as that of opening or closing the eyes. It may be admitted that evidence

of this kind, though it certainly shows the dependence of the direct apprehension of primary sensibles on the body and its movements, is not of itself sufficient to indicate unambiguously that the primary sensibles have part of their source in the body. There are, however, manifold other experiences which make the inference unambiguous. The primary sensibles, through which a thing is perceived, are constantly found to vary in manifold ways, where, on the one hand, the variation cannot be referred to any variation in the thing perceived or in any transition from the appearance of its parts or qualities to others, and where, on the other hand, it obviously *can* be referred to correspondingly variable movements of the percipient's body and organs of sense. At a somewhat later stage the influence of conditions intervening between the body and the thing perceived will be taken account of. It will be longer before the part played by the varying state and constitution of the body itself will be definitely recognised. The final stage is represented by the physiological treatment of the conditions of sensation, as exemplified in such doctrines as that of specific energies or in the explanation of hallucinations.

What I have endeavoured to show in the above discussion is that the perception of particular physical objects is only one special development of the general reference of primary sensibles to a source. The source in the perceived object is not the whole source or the most immediate part of it. The distinction of this part of the source is not an original datum, but acquired in connexion with certain special experiences, and in the same process there arises the distinction between mere variation in the sensible appearance and variation in the thing perceived. It follows that we have no need to assume an immediate and original knowledge of this distinction and of the fact that some appearances express the nature of the object more adequately and accurately than others. What is original is the reference to the whole source. But there is no

reason to suppose that, in this respect, there is any difference between one sensible and another. The principle, throughout, is that all directly apprehended relations of primary sensibles are correlated with corresponding relations in their source. For the secondary qualities, it is only qualitative relations of resemblance and difference which are involved. For the primary it is also local and temporal relations. Finally, there is nothing, in the further development of knowledge, to show that this initial postulate is false or inaccurate. So far as we can discover, the correlate of a primary sensible, inasmuch as it is not to be found in the perceived object, is capable of being found elsewhere in some other part of the source. There is nothing, therefore, to raise a doubt as to the immediacy or the certainty of the knowledge that all differences and relations of primary sensibles are matched by differences and relations in their source.

I have now stated, in broad outline, my own positive view of the nature of our knowledge of physical objects. But there is one relevant point of disagreement between Mr. Moore and me which I have not yet mentioned. He says that he feels a strong propensity to believe that certain experienced sensibles continue to exist when they are not experienced. "I have," he says, "a strong propensity to believe that, *e.g.*, the visual sensibles which I directly apprehend in looking at this piece of paper still exist unchanged when I merely alter the position of my body by turning away my head and closing my eyes, provided that the physical conditions outside my body remain unchanged." The importance, for me, of the question here raised, lies in its bearing on my view that part of the source of these sensibles, and the most immediate part, is in the body of the percipient and not in the perceived thing. This view seems incompatible with the belief that the sensibles continue to exist independently of the body.

No doubt if such an instinctive belief existed and if it were universal, we should have to attach great weight to it.

But, so far as I can see, it does not exist, and in any case it is not common to all mankind. I am sure that I myself do not share it, and it is clear that Berkeley, and those to whom Berkeleyanism seems plausible at first sight, do not share it. In my own case, I do indeed feel a strong tendency to believe that after I have seen a thing and then ceased to see it, the thing continues to exist with the characteristics which I perceived as belonging to it, provided that the physical conditions outside my body remain unchanged. But, as Mr. Moore himself points out, what I see is, according to the usage of ordinary language, not the visual sensible directly apprehended, but the physical object. Besides this physical object with its perceptible qualities, there is certainly nothing else which I strongly tend to regard as persisting after the perception has ceased. The same holds good, so far as I can discover, for mankind in general. If it is admitted that the thing seen with its perceptible qualities persists, they do not ask for more than this. The only question which remains, therefore, is whether there is a strong propensity to believe that the directly apprehended sensible is itself a quality of the thing. From what Mr. Moore says (p. 372), I gather that he would deny that the sensible, as such, can be simply identified with a quality of the thing. Either, then, his instinctive belief contradicts one of his fundamental principles, or he believes that the sensible persists without believing it to be a quality of the perceived object. In the latter case, his propensity to believe seems so exceptional that we can hardly attach much importance to it.

I would suggest that Mr. Moore does not really feel a propensity to the belief which he himself defines. I am therefore bound to offer some explanation of the fact that he supposes himself to feel it. I think that what he really feels is a strong tendency to reject what he wrongly takes to be the only alternative to the belief that the sensibles themselves persist when they are not directly apprehended. He seems to take it for granted that if we do not believe that the sensibles

actually continue to exist, then our belief that the physical object continues to exist is merely a belief in the continued existence of the *source* considered in complete abstraction from the nature of the sensibles as expressing the nature of the source. This seems to be clearly wrong. What we mean by a physical thing includes not only the source, but also the kind of sensible which expresses the nature of the source. It does not follow at all that when the thing is not perceived the primary sensible through which it is perceptible must actually persist. It is sufficient as well as necessary that possible sensibles standing in the required relation to the source should be included in what we mean when we think of the physical object. The possibility must be of such a nature that its realisation does not affect the existence or nature of the source, but depends on other conditions—the conditions which we recognise as making a difference to the sensible appearance and not to the thing itself. This being presupposed, we may and must, if we are to represent the physical thing to ourselves at all, represent it as it would appear under such conditions, and include in our conception of it the whole range of its possible appearances under varying conditions. If we entirely leave out of count such relation to sense-experience, what is left is not a physical object at all. If we undertake the mental experiment of abstracting from sensible appearance, we find ourselves confronted with the problem of what things may be in themselves, apart from their relation to our sensibility, a problem which does not trouble common sense or science. For science and common sense things are *phenomena*, and a phenomenon is an object such as it appears to the senses. If a difficulty is still felt in understanding how the nature of primary sensibles, inasmuch as they express the nature of the source, is included in what we mean by the continued existence of an unperceived object, this may, perhaps, be made clearer by considering a case which is partly analogous. We think of a book as continuing to exist when

no one is reading it. What we take to persist does not merely consist in certain marks on paper. These persisting marks are regarded as still forming words, sentences, paragraphs, etc., even when no one is reading the book. The marks are thought of as still having a meaning even when they are not actually conveying their meaning to any mind. Otherwise what we regard as persisting would not be a book. Similarly, physical things are still thought of as they appear to the senses, even though they are not supposed to be actually perceived by anyone. Further, if we thought of them otherwise, we should not be thinking of physical things as such at all.

Is this explanation sufficient; or must we go farther and say that there is a strong propensity to believe that primary sensibles themselves persist when they are not experienced? As I have already said, if such a tendency exists, I must identify it with a tendency to believe that the primary sensible endures as a part or quality of the thing. Otherwise, I have no clue to what is meant, and can only say that if some minds feel this tendency, I, at least, do not either feel it or anything which could be mistaken for it. The only question, for me, then, is whether there is a strong tendency to regard the immediately apprehended sensibles as persistent qualities of the things perceived. I find that if and so far as I use all means at my disposal for securing that the precise nature of the question is sharply defined and clearly kept in view, the answer is negative. We are all prepared to recognise that the same thing in the same aspect of its nature may have variable appearances to the senses without itself undergoing corresponding changes. But if we ask ourselves whether we strongly tend to believe that the varying primary sensibles exist and persist as qualities of the thing, we are bound, I think, to come to the conclusion that we do not. Is there a strong propensity to believe that all, or even more than one, of the varying primary sensibles persist in this way? Whether this is

intrinsically possible or not we need not here enquire. We may, however, assert positively that there is no natural tendency to believe it. There is no natural tendency to believe that a thing possesses simultaneously and persistently all the various shapes and sizes which belong to its various visual appearances. Yet all these appearances may be possible without any change in the physical condition outside the body of the percipient; and hence the strong propensity to believe ought to cover all of them. It may seem more plausible to maintain that we are naturally prone to identify some one of such a series of primary sensibles with a persisting character of the thing. But this position also owes its plausibility to a fallacy of confusion. Some of the appearances express the nature of the thing more adequately than others; at the same time, they are especially convenient for purposes of reference both in thinking of the thing ourselves and in communicating with others. There thus arises a tendency to regard certain modes of appearing as standard modes of appearing, and to prefer these to the others in thinking about the thing. I cannot also detect a strong and stubborn tendency simply to identify the primary sensibles involved in such appearances with persistent characters of the external object. Let us put to ourselves some test questions. For the ordinary purposes of daily life, we, for the most part, select as the standard appearance of a thing to the eye, that which it presents for normal eyesight, when we look straight at it from a certain convenient distance. Are we therefore strongly impelled to identify this appearance in distinction from all others with the persistent quality of the thing? Are we, for instance, impelled to prefer it in this way to the appearance which would be presented under the microscope or to eyesight of superhuman keenness? The standard appearance itself is by no means fixed with absolute precision. It really includes a series of more or less variable appearances, due to relatively small differences in the position and distance of the observer, in the

organ of vision and in the illumination. Have we then a strong tendency to identify some one of these rather than the others with the persistent size, shape, and colour of the thing? Consider, next, the relation of sight and touch. There is undoubtedly a strong natural tendency to identify the extension of a thing as seen with its extension as touched. But the tactual and the visual sensible differ so greatly and obviously that they cannot be simply identified with each other. Hence it follows that neither of them can be identified with the extension of the thing seen and touched. So soon as the question is clearly and distinctly put, we become aware that we do not identify either with the extension of the thing, but regard both as sensible appearance distinct from what appears. In the case of touch there is another point which deserves notice. When I touch a thing, I perceive at least two surfaces, the surface of the thing touched and that of my own skin in contact with it. But there are not two but only one extensive tactual sensible. I cannot identify this with both surfaces and I do not identify it with one rather than the other. I do not really identify it with either. The case becomes further complicated in such instances as that of the blind man groping with his stick. Here, there are three surfaces perceived, that of the hand, that of the stick in contact with the hand, and that which is explored by the other end of the stick. But there is only one extensive tactual sensible.

XIII.—THE PRINCIPLE OF RELATIVITY AND ITS IMPORTANCE FOR PHILOSOPHY.

By H. WILDON CARR.

SUPPOSE that Gulliver when shipwrecked on Lilliput, instead of waking up in his old proportions, had undergone during his sleep a shrinkage to Lilliputian proportions, he would not have been able to discover that anything unusual had happened to him. It would have been impossible for him to know either that he himself or that the physical world had undergone a change. Yet he would have passed into a world in which all reality, spatial and temporal, with all the standards of measurement and all the clocks, had shrunk to one-twelfth of the proportions of the world in which till then he had been living. Compared with the former world feet would now be inches, and an hour would be five minutes. But as he himself would have shrunk to one-twelfth of his physical proportions he would be, and would continue to be, unconscious of any change of condition in his world. Physical reality would have suffered a complete snap, but psychical continuity would have been uninterrupted. Suppose now that, having remained one year, reckoned by his former system—twelve Lilliputian years—in Lilliput, he had returned to his former world, and that in returning he had been restored to his old proportions. He would still, as before, be psychically continuous, unaware and unable to be aware of the new change in his spatial and temporal universe. But now suppose he returned to his family and friends, he would discover a strange discrepancy. He would have been absent one year but would have aged twelve years and would find his old world eleven years younger, for he would

have been twelve years in Lilliput. If therefore a great change were to take place in physical reality, altering spatial proportions, altering temporal rate of flow, deforming the material universe, so long as we the observers continued ourselves to undergo the corresponding change we could not discover the fact; however great the alteration—the world would remain for us the same world. And there is only one way in which in such case we could become aware of the change, and that would be if we were able to compare our experience with that of an observer who had not like us undergone the change, but had remained in the system we had left and returned to. Suppose now we ask ourselves what is the relation of Lilliputian space to our space and of Lilliputian time to our time? It is clear that we can give no answer, or rather that the only answer we can give is that on the objective side there is no relation. They are not reconcilable with our ordinary notions of the conditions of the physical world. The Lilliputian space is not contained within our twelve times greater space, the Lilliputian time is not part of our twelve times slower time; if they are, there will be a remainder, and there is no remainder. There is a one-one relation between the two systems, but only for an observer who is able to pass out of the one into the other without himself changing with the change.

According to the Principle of Relativity a change in our physical conditions precisely of this kind is taking place at every moment. Space and time and matter are not absolute for all systems of reference, but absolute within each system of reference, and our system of reference is never for two moments the same. Our psychical continuity makes experience uniform. The movement of the earth on its axis and in its orbit, the acceleration of the earth's movement, and the movement of the solar system in the stellar universe and its acceleration, are to us a continual to-and-fro journey from Lilliput to Brobdingnag, which we do not become aware of only because our proportions change with every change in the proportions of our universe.

And we never could have made the discovery had we not been able to compare the propagation of ethereal states with the motion of material systems.

The Principle of Relativity affirms that neither space, nor time, nor matter, nor ether (if there is ether) is absolute, that no one of these is one and the same identical reality for every observer, but each is particular to the observer. The uniformity we observe in physical relations is a function of the system of relative movement to which we are bound. In the account I am about to give of this principle, I make no pretence to be able to appreciate the evidence on which it is based. I am neither a mathematician nor a physicist, my interest is a philosopher's interest. I shall not therefore criticise the principle with a view to determining how far its formulation is provisional and in need of modification. Whatever disagreement there is among those able to form a judgment from direct experiment, we may take it to be universally admitted that the old mechanical theory, however well it may still hold good for the measurement of comparatively low velocities, fails completely when applied to the immense velocities we meet with, and are now able to deal with, in electro-magnetic, and more especially optical, phenomena. It is the relation of this new kinematics to pure metaphysical theory to which I desire to direct attention.

The Principle of Relativity is that the laws of physical phenomena are, under equal conditions, presented under exactly the same form to different groups of observers in movement of uniform translation in relation to one another. And the corollary of the principle is that electro-magnetic phenomena are propagated in all directions at a uniform velocity, of about 185,000 miles a second, for all observers, to whatever system of relative movement of translation they are bound. This velocity of light is a critical velocity which cannot be exceeded. It is the sole velocity that is preserved when we pass from one system to another.

We may state these two grounds of the theory concisely thus—

1. It is impossible to discover the motion of a system relatively to other systems by means of experiments performed entirely within the system. (For instance, to discover the motion of the earth relatively to the sun or stars by means of purely terrestrial experiments.)

2. The velocity of light is a universal constant, independent of the motion of the source.

The Principle of Relativity rests on an experimental basis. It has been formulated to express the result,—the uniformly negative result,—of the experiments made to detect the acceleration of a system of movement by observations taken within it. Details of these experiments, of which there have not been many (three or four only), are given in the textbooks, and are familiar to all students of the recent development of physical theory. There are various opinions as to their interpretation, but no doubt of their accuracy has been suggested. The first and the best known is the Michelson and Morley experiment, which utilised the movement of the earth in its orbit. In this movement we have a velocity of translation immensely greater than any velocity we can produce directly, and yet far below, only $1/10,000$ part of, the velocity of light. If, as was supposed, light is propagated in a medium at rest in relation to the earth's translation, its apparent velocity will undergo an increase or a decrease for an observer on the earth dependent on the velocity and direction of that translation in relation to it. An experiment was therefore contrived to show a variation as small as $1/100,000,000$ of a difference in the velocity of light, taken in two directions at right angles, that is to say, one direction parallel to the translation and one direction perpendicular to it. The experiment would have revealed

a variation 100 times greater than this had it existed. The result was negative.

An illustration will make clear the paradox involved in this conclusion. Suppose we are observing the propagation of a light wave and also the movement of the source of the light wave; we should expect to observe the effect of the movement of the source in the velocity of the light, but we do not; on the contrary, we observe the light propagated at a constant velocity uninterfered with by the direction or velocity of the movement of the source. Suppose, again, we observe the propagation of a light wave and also an observer moving in the same direction with any velocity in relation to ourselves, the principle declares that he observes the light propagated at the same velocity, 185,000 miles a second, at which we observe it and not, as we should suppose, at a lower velocity.

The acceptance of this fact involves important modifications of some fundamental conceptions. We may single out a few :—
(*a*) The ether, if there is ether, cannot be absolute and at rest, it must be attached to and carried with every system of movement of translation; it must vary with every variation in the velocity of the observer's movement. (*b*) Neither space nor time is original or absolute, each is relative and correlative to the observer's system of reference. (*c*) Simultaneity, here, now, before and after, refer to no absolute standard of reference, they are not the same for all observers, they relate to events whose distance and interval are co-ordinated independently for every system of movement of translation, with the limiting velocity. This velocity cannot be overpassed by any movement of translation. (*d*) There is no mass independent of velocity; the mass of any body depends on its velocity and on the angle this velocity makes with the force acting on it. (*e*) There is no experience which can decide for us whether a body is at rest or in movement, whether in relation to a supposed absolute space or to a supposed fixed ether. There are many other results even

more disconcerting to ordinary notions, which are the subject of controversy, as for instance, the question of the nature of gravitation and the continuity or discreteness of energy. In the latest development even the old principle *Natura non facit saltus* is called in question.

The formulation of the Principle of Relativity is associated with the names of H. A. Lorentz, Albert Einstein, and the late H. Minkowski. The actual formulation was the work of Einstein, its general application the work of Minkowski. The first attempt to meet the facts revealed by the negative results of the experiments was what is known as the shrinkage theory of Lorentz, according to which it is held that there is a shrinkage of all matter in the direction of its motion. This hypothesis, I believe, still holds good, and has its place in the Principle of Relativity, but the shrinkage is no longer regarded as a physical reality, but as an appearance due to physical limits of observation. The principle, on the other hand, stands for a complete system of theoretical physics worked out on the basis of the independence of electro-magnetic phenomena of absolute motion.

A consequence of the theory is that the inertia of a body depends upon the energy contained in it, and this implies a fundamental identity of mass and energy, and from this it can be shown that radiation must have a "mass," and that consequently mass is a function of velocity. And instead of the old division of the universe into matter and energy we have a universe of radiant energy. And in connection with this problem the principle has led to the formulation of a new theory of radiation known as the theory of Quanta, a theory propounded by Professor Max Planck, according to which radiant energy is emitted in discrete quantities and not continuously. This is the theory that was opposed by Sir Oliver Lodge in his British Association address on "Continuity." Another problem of great difficulty which is a present subject of investigation is the nature of gravitation,

whether or not it is an electro-magnetic phenomenon, and, if not, what is its velocity? With controversial and unsettled problems, however, I do not propose to deal, but only with the philosophical problems to which this radical alteration in our ordinary notions of the fundamental realities of the physical universe give rise.

Let us examine first as a consequence of the Principle of Relativity the doctrine known as the abolition of the ether. The postulation of ether as the medium filling interstellar space was a necessary consequence of the undulatory theory. The notion of undulation or vibration involves as part of itself the notion of a medium which undulates or vibrates. There cannot be wave motion with nothing to support it. This necessity rests on the rejection by physics, as a fundamental axiom of the science, of the possibility of immediate action at a distance. Electric and magnetic actions therefore can only be transmitted from point to point through space by the interposition of a medium. There was no such medium known or that it was found possible to make evident to sense perception, and it had therefore to be hypothetically assumed. The argument still holds good, and physicists will no doubt continue to speak of ether in connection with undulation of light even though driven to deny to it every quality consistent with existence. The argument may be simply illustrated. It takes eight minutes for the light emitted by the sun to reach the earth—where is it during those eight minutes if there is no medium to transport it? And the negative argument based on the absence of any positive quality whatever which can reveal it to us is illustrated by the familiar fact that the existence of air could not be known had we no air pump. The ether pump awaits discovery. Sir Oliver Lodge further illustrates it by the impossibility of conceiving that deep-sea creatures, however advanced in intelligence, can be aware of water. But the notion of a luminiferous ether has had a strange and eventful history. At first a mere hypothetical x , it soon became a

physical reality constituted with regular attributes and calculable in its action, finally supposed to be the primordial substance of the universe out of which matter itself is generated. It is true it had strangely contradictory attributes—frictionless, solid, incompressible, immovable, fixed and yet strainable, enduring unaffected the translation through it of matter. Not that there is anything necessarily fatal to it in the fact that its attributes seem self-contradictory, the reconciliation may merely await fuller knowledge. The theory of atoms has survived and developed, although serious logical difficulties in the conception of the atom were obvious from the first. And, indeed, we are not free from logical contradictions in any case, whether we hold that ultimate physical reality is continuous or whether we hold that energy and even time itself is atomic. The Principle of Relativity has deprived this hypothetical ether of every property but one, the absolute constancy of light propagation. But as this absolute constancy is for every observer, whatever his own system of relative movement, instead of one absolute ether filling space, at rest and unalterable in relation to all systems of movement whatever, we must conceive the ether to be carried with and belong to every system of movement. Instead of one ether we must suppose infinite ethers, as many as there are systems of movement and one for every acceleration of a movement, and to suppose this is precisely the same thing as to suppose there is no ether. This can be shown in another way. If light moves at a constant velocity in an absolute ether, then to an observer in movement of translation relative to that ether, the velocity of light will appear greater or less by the amount of the observer's own velocity according to its direction. This is the expectation that experiment has falsified. It does not. The velocity is constant, therefore the ether is of no use and may be abolished.

It follows also from the Principle of Relativity that neither space nor time is absolute, each is a function of the observer's

system of reference. One and the same event occurring for observers in one system of reference at one moment and in one point, to observers in another system of reference occurs as two events separated by a distance in space and an interval in time. The familiar and simple illustration is that of objects dropped through the floor of a moving wagon. Two objects dropped in immediate succession is an event which to observers in the wagon occurs in one place at one time. To observers on the soil they are two events separated in space by the distance travelled by the wagon during the time of their occurrence. Also there is a time interval for the observers on the soil, for whom there is separation in space, which does not exist for observers in the wagon, for whom there is not. There are no two events separated to our observation in space for which it is not possible to conceive a system of movement of translation for observers in which they would occur in the same place, and likewise there is no one event which for us occurs in one place and might not for some system of reference be two events at different places. With this proviso, however, that if the velocity required in order that two events shall be observed in one place exceeds the velocity of light, it is not practically realisable, for a reason that will appear. It was at first thought that at least time must be absolute, but it is clear that by the principle the time interval is different for different observers; it must be shorter for observers to whom events occur in one place than for all other observers of those same events. Space and time therefore change and undergo alteration, when we pass from one system of reference to another: one thing alone remains constant, the velocity of light. This velocity therefore assumes of necessity a rôle of the first importance in the new kinematic theory.

This new conception of a finite critical velocity is also paradoxical when judged by ordinary notions. The velocity of light must be conceived as a constant finite velocity and also as a maximum velocity. And the Principle of Relativity

introduces a new meaning into the conception of simultaneity. Two events can only be simultaneous if they are in the same universe, and they are only in the same universe if the distance which divides them in space and the interval which separates them in time are co-ordinated with the velocity of light.

The Principle of Relativity therefore regards every observer as the centre of a universe in which all events are co-ordinated for his system of reference by four co-ordinates, three for space and one for time, all variable. These co-ordinates vary with every change from one system to another, with every change of acceleration, and the only constant is the velocity of light. Let us illustrate it by an extreme case, let us suppose that, from being an observer fixed to this system of reference we call our earth, one could be transferred to a system, say an atom, in which life as compared with our present life would pass in some thousand millionth of a second. Suppose now that from our new position on an electron we look out on to our new atomic system in place of our old solar system. One thing only will have remained constant, the velocity of light. Suppose then that our new system of reference is such that the light radiating from the centre of the atom takes eight minutes to reach our electron, then 90,000,000 miles will separate us from it in space. The relation between this new space and time of the atom and the old space and time of the solar system will have nothing in it that is absolute, each is a function of the relative velocity of the observer's system. Each observer will have eight minutes of time interval and 90,000,000 miles separating his light from its source, but there will be no standard for comparison of the space and time, the one will not be contained within the other. Five minutes of our old system may be a geological period of our new system. Einstein has calculated for example that were we to leave the earth in a system of translation moving at $1/20,000$ of the velocity of light and were to remain absent two years and then return we should come back to a world that had aged 200 years in our absence.

According to Einstein a velocity greater than that of light, though conceivable, is not physically realisable. The reason alleged is that a velocity greater than that of light would conflict with the notion of causality, which involves the necessary priority of cause to effect. The argument, though interesting and important, is open to criticism and is not now, I believe, generally followed. It is not a necessary part of the doctrine. Suppose two events to happen for an observer at a distance from one another greater than light can travel in the interval which separates them in time. It is clear that the one event can cause the other only if the influence (the cause) travels quicker than light. In that case there would be observers for whom the effect would occur before the cause, there would be systems of translation regressing in time. Consequently a velocity exceeding that of light would contradict our conception of the necessary priority of the cause to the effect. But if all movement falls short of the velocity of light, then for two such events as we have supposed there would exist systems of reference for which they would be simultaneous but there would be no system for which their distance would be annulled, for such a system would exceed the velocity of light. For us therefore two such events are independent, they do not belong to the same line of the universe. But though for two such events the distance at which they take place is not annulled for any observer, it is shorter for those for whom they are simultaneous than for any others.

The position is reversed for two events that take place at a distance less than that which light can travel in the interval of time. For two such events the time order cannot be annulled or reversed for any observers, but there might be systems for which the distance in space would not exist. And for such a system the time interval would be shorter than for any other.

This follows from the fact that for our physical universe one thing and one thing only is constant, the velocity of light propagation to our observation. For us there are two sorts of

relative movement, there is the relative movement of two material systems to one another and the relative movement of a material to an ethereal system. For the former kind the old conceptions suffice; for the latter, the failure to show any alteration in the ethereal system consequent on variation due to the translation of the material system, or to determine the velocity of the material system from the observation of the ethereal system, has necessitated the formulation of the Principle of Relativity.

What has all this to say to philosophy? So far as we are dealing with physical and mathematical problems, nothing whatever. Philosophy cannot decide for the physicist whether or not there is a movement which can exceed the velocity of light; whether, for example, gravitation is or is not such a movement; whether or not the ether is something really existing; whether if it is there may or may not be means of making it manifest; whether or not the hypothesis of an ether is necessary for the formation of an electro-magnetic field; whether energy is discrete and atomic, or continuous. These are all physical and not metaphysical problems, and metaphysics has no special means and makes no special claim to solve them. On the other hand a problem is undoubtedly and manifestly opened to philosophy in these speculations, because they deal with paradoxes, and paradoxes are conflicts between fundamental necessities of thought, and these conflicts can only be reconciled by a criticism of conscious experience itself.

There are three problems of philosophy which seem to be distinctly raised by the Principle of Relativity—

1. The problem of continuity. This is particularly concerned with the doctrine of the abolition of the ether.

2. The problem of the nature of real duration. This is concerned with the doctrine of the relativity of space and time to the observer's system of uniform movement of translation.

3. The problem of original movement. This is concerned with the doctrine that mass is a function of velocity.

1. An ultimate discontinuity is simply unthinkable. This fact may be illustrated in many ways. The simplest, perhaps, is to show the vanity of the attempt to represent in thought an absolute void. The supposed idea of an absolute nought is a false idea, it is the abstraction in thought of a certain order of reality, but it is not the idea of nothing, for there can be no such idea; it is the idea of an absence of something, which something is always present in idea, always in the mind of the person who has made the abstraction, and who himself is there to contemplate the void his abstraction has made. Even the conception of an ultimate discrete reality—atoms and the void—is unrealisable in thought. The void is not a real void but the potential place of an atom, even if the actual atoms are supposed to be completely closed systems without external relations. Yet it has always seemed as though continuity must depend on a physical principle. It appears absurd to suppose that the universe is not held together by some reality of which physical science can take hold. If it is not matter then it is ether, if it is not ether then it is geometrical space. Now what the Principle of Relativity has done, quite irrespectively of whether its formulation is final or is only an approximation, is this: It has shown the impossibility of regarding any physical fact, anything known to us in physical science, whether its existence is actual or hypothetical, as necessarily continuous. I think we might even go further and say that it shows us that any reality with which physical science is competent to deal is necessarily discrete, even space and time being no exception. Continuity, according to the Principle of Relativity, is not in anything which can be observed but in the observer.

There are two kinds of continuity—physical continuity and psychical continuity. The first is illustrated in the doctrine

of the ether. According to this doctrine, were there empty space or absolute void it would constitute a breach in the physical universe which would divide it into separate universes that could have no relations. If the universe is one it can only be because there is a medium holding it together, supporting the influences that radiate through it and which without it would be impossible. It is this consideration which makes Sir Oliver Lodge, Professor Marcel Brillouin and others cling to the affirmation of a real ether in spite of the formidable contradictions, logical, physical, and mathematical, which the notion involves. If the ether could undergo deformation, or could move in the way we suppose matter to deform and move, or if it could be one thing for one observer and another and totally different thing for another observer, it is clear it would not be the physical continuity which by the hypothesis it is. The reason why the notion of an existent ether persists in spite of the difficulties it involves (how, for example, its immobility is to be reconciled with its strain) is that finally it is itself the notion of absolute physical continuity.

When we consider psychical continuity we meet a complete contrast. Instead of something which has to be conceived as absolutely unchangeable and immobile, we have a change which is continuous, a reality which remains self-identical throughout continuous becoming.

I suggest, then, that we are forced by the scientific Principle of Relativity to find the continuity of the universe in a psychical principle. And I suggest, further, that philosophy can supply a complete reconciliation of the apparent paradox. We need no ether to support the universe. The reality is life, and the physical universe is for each living being the sphere of its action. The physical world is for us the externalisation of our life in action. We do not as separate individual personalities each create for himself his own physical environment, for a universal life impulse is behind

creative evolution, and individual personalities are realisations of it in present centres of activity. In creating our mode of activity the life impulse has selected the sphere of our activity. The one is relative to and correlative with the other. In vain, therefore, shall we ever look for continuity, in the absolute sense, in the physical world, for that world being external is spatial, and, therefore, in its very nature discrete and quantitative. Continuity can only be in what is essentially concrete and qualitative, that is, in life.

2. Let us now look at the philosophical aspect of the doctrine of the relativity of space and time to the observer's system of movement. In geometry space is regarded as absolute, but time is taken as an independent variable; in the old mechanics space and time are the homogeneous background of movements and events; in the new kinematics the three dimensions of space and the one dimension of time together are four axes by which every event is co-ordinated with other events in the universe which is the aggregate of events. The co-ordinates are not absolute and independent, but tied to the event, relative to the observer and his system of reference. The movement, for example, which provokes a contraction of the moving body parallel to its direction shortens the scales in proportion to the lengths measurable, alters the clock with the rate of flow of the system, so that continuity is maintained for the observer in the system.

It is much more easy to recognise the relativity of space than the relativity of time, at any rate if we have regard to the psychological origin of our ideas of these realities. An illustration used by Poincaré will explain my meaning in regard to space. Two points applied to the skin are felt as one or as two according to their distance from one another on the surface of the body; this distance varies for different parts of the skin, probably according to the disposition of nerve endings. But our skin is relatively fixed or itself varies in extension in narrow limits. Suppose, however, a mollusc to be dependent entirely

on such experience for its perception of space, how different to ours its space would be. Its extended and retracted skin would introduce an element to be co-ordinated in its experience entirely absent from ours. This is only one of many illustrations which show how relative space perception may be. But with time it is different. Time seems to have something necessarily absolute about it. The reason is two-fold. In the first place we confuse under the same term two quite distinct things, psychical time, the real duration of experience, and geometrical time. The real duration of psychical life is qualitative, in a sense it is pure quality, geometrical time on the other hand is quantitative simply, it is in fact in all respects analogous to a dimension of space, yet because we use the same term, the absoluteness of real duration seems to belong to geometrical time. The second reason is that time considered as a dimension, unlike the three recognised dimensions of space, has a direction which is irreversible. On this irreversible direction depends the relation of cause and effect, and therefore it appears to have something of an absolute nature which is absent from the notion of space.

It is perfectly easy in philosophy to reconcile the paradox that neither space nor time is absolute, but that a conception of space and a conception of time corresponds to every moment of our experience and to every degree of perfection of our knowledge. The perception of the nature of pure duration—that it is a quality and not a quantity—enables us to rationalise this empirical principle of the relativity of space and time. This is the philosophical principle which is the counterpart of the scientific principle. The source of all reality is duration, and duration is the life of the universe. In no other principle can we find the continuity which gives reality to the observer. It is this reality of the observer that is the centre from which the external universe is determined, and it is this determination of the universe for the observer that is the quality which belongs to his system of reference. This system of reference is the movement to which the observer is bound in relation to other movements. It is

therefore the observer's life, his psychical experience, qualitative and not quantitative, considered in its essential unity and individuality, which is the source and centre of all reality. Seen from within, it is the reality of a change that endures. Seen from without, it is pure quantity, a system of spatial and temporal relations to other systems. I suggest, therefore, that here again philosophy gives us a principle which accords completely with the new kinematic Principle of Relativity. It removes from it even the semblance of paradox.

3. Great as seems to be the paradox, however, in denying that there can be either a space or a time that is absolute, the supposed necessity of thought which affirms the contrary is not based on psychical experience but on mathematical and physical reasoning. It is a logical, not a psychological, postulate. Indeed, the notion of absolute space seems rather to be contradicted than to be confirmed by psychical experience. It is physical reality, not psychical reality, which demands a background of homogeneous space and time. But when we turn to the new theory of inertia, which depends on the doctrine that mass is a function of velocity, we seem to come up against a plain and glaring contradiction with ordinary experience and with what is really at the bottom the same thing, intelligible scientific theory. "It is to the self-induction of convection currents, produced by the movements of its electrons, that the atom, which is formed of them, owes its apparent inertia and what we call its mass."* That an immaterial particle should possess mass seems contrary to all our habits of thought. Indeed, mass and matter we commonly regard as one and the same thing. We ordinarily define mass as quantity of matter. Even when we recognise that weight is a relation of masses and that the weight of any mass tends to zero as it is removed from other masses, while the mass which thus loses weight yet itself may remain constant, it still seems a necessity of thought to

* Poincaré, *Dernières Pensées*, p. 201.

accord to mass priority over movement. We have, therefore in the electro-magnetic theory of the origin of matter the assertion of a reality more fundamental than material reality. This scientific doctrine is in entire accordance with the philosophical doctrine that change or movement is ultimate and original, and that things which change or are moved are views of the movement. This doctrine rests on the argument that movement is more and not less than immobility, and the more cannot be derived from the less. There is no way of deriving movement from immobility, but given an original movement, things are derived. Things are not parts of a movement but views of a movement.

What, then, is this original movement, where are we to look for it, and how are we to know that it is original? The answer is that there is only one reality which it can be, the reality we know as life or as consciousness. No other answer is possible, and it is the Principle of Relativity which shows us plainly why. The external universe, the world we look out upon and whose laws we study in physical science has no absolute standard of reference within it, no unit of absolute extension, no unit rate of time flow. It is ordered for each observer by axes which radiate from his centre and which are relative to the system of reference to which he is bound. Everything real in this universe, including the dimensions of space and the time rate of succession by which an event is co-ordinated with other events, is relative to the system of reference. And this system is to other systems a movement of relative translation. What then is left? What is there that is not relative in this universe of relations? Clearly the life itself. Life is a movement, or change, or duration which is not a quantity; it is not an aggregate; it is not divisible into parts external to one another; it is a pure quality. It manifests itself in individual centres of activity, centres from which it externalises itself in action. The physical world is the reflection outwards of what in itself, in its absolute nature, is psychical duration.

ABSTRACT OF THE MINUTES OF THE PROCEEDINGS OF THE ARISTOTELIAN SOCIETY FOR THE THIRTY-FIFTH SESSION.

November 3rd, 1913. Prof. G. Dawes Hicks, President, in the Chair.—The President delivered the Inaugural Address on "Appearance and Real Existence." A discussion followed in which Mr. Carr, Dr. A. Wolf, Prof. Norman Smith, Mr. Benecke, Mr. Shelton, Mr. Worsley and others took part. The President replied.

December 1st, 1913. Prof. G. Dawes Hicks, President, in the Chair.—Prof. J. A. Smith read a paper on "Feeling." The discussion was opened by the President and continued by Mr. Carr, Mr. Benecke, Miss Edgell, Miss Oakeley, Miss Shields, Mr. Dale, Mr. Shelton, Mr. Worsley, and Dr. Boulting. Prof. Smith replied.

December 22nd, 1913. Prof. G. Dawes Hicks, President, in the Chair.—Mr. C. Delisle Burns read a paper on "William of Ockham on Universals." The discussion was opened by the President and continued by Prof. Brough, Miss Oakeley, Mr. Moxon, Mr. Worsley, Mr. Carr, and Mr. Shelton. Mr. Burns replied.

January 5th, 1914. Prof. G. Dawes Hicks, President, in the Chair.—Mr. H. S. Shelton read a paper on "Philosophy as the Co-ordination of Science." The President opened the discussion, and Dr. Nunn, Mr. Benecke, Dr. Silberstein, Dr. Tudor Jones, and Mr. Worsley took part. Mr. Shelton replied.

February 2nd, 1914. Prof. G. Dawes Hicks President, in the Chair.—Mrs. N. A. Duddington read a translation of a paper by Prof. N. O. Lossky on "Intuitionism." The President opened the discussion and was followed by Mr. Carr, Prof. Brough, Mr. Solomon, Miss Oakeley, Miss Shields, Mr. Worsley, Dr. Tudor Jones, Mr. Ginsberg, Miss Macfarlane and Colonel Bethell. Mrs. Duddington, in reply, further expounded Prof. Lossky's views on the points discussed.

March 2nd, 1914. Sir Francis Younghusband in the Chair.—
Prof. J. Brough read a paper on "Some New Encyclopædists on Logic." A discussion followed in which Mr. Carr, Dr. Tudor Jones, Miss Oakeley, Mr. Worsley, Mr. Mead and Dr. Goldsbrough took part. Prof. Brough replied.

April 6th, 1914. Prof. G. Dawes Hicks, President, in the Chair.—
Papers on "The Value of Logic" were read by Dr. A. Wolf and Dr. Schiller. A general discussion followed, in which Dr. Bosanquet, Dr. Mercier, Prof. Carveth Read, Mr. Tanner, Prof. Brough, Dr. Robinson and Mr. Shelton took part. Dr. Wolf and Dr. Schiller replied.

May 4th, 1914. Prof. G. Dawes Hicks, President, in the Chair.—
Dr. Leslie Mackenzie read a paper on "The Psychology of Dissociated Personality." The discussion was opened by the President and continued by Dr. Nunn, Dr. Lynch, Mr. Burns, Mr. Shelton, Dr. Goldsbrough, Dr. Tudor Jones, and Mr. Mead. Dr. Mackenzie replied.

May 18th, 1914. Prof. G. Dawes Hicks, President, in the Chair.—
Notice to amend Rules III and VII was read by the President. Miss F. Rosamond Shields read a paper on "The Notion of a Common Good." The discussion was opened by the President, followed by Dr. Nunn, Mr. Carr, Mr. Burns, Miss Pearson, Prof. Brough, Miss Oakeley, Mr. Mead, and Dr. Tudor Jones. A communication was read from Miss Constance Jones. Miss Shields replied.

June 8th, 1914. Prof. G. Dawes Hicks, President, in the Chair.—
The President moved the alteration of Rules III and VII, which was carried unanimously. Mr. David Morrison read a paper on "The Treatment of History by Philosophers." The discussion was opened by the President and continued by Dr. Wolf, Mr. Mead, Dr. Tudor Jones, Mr. Shelton and Mr. Carr. Mr. Morrison replied.

June 13th, 1914. Prof. G. Dawes Hicks, President, in the Chair.—
The Report of the Executive Committee for the Thirty-Fifth Session and the Treasurer's Financial Statement were read and adopted. It was resolved to subscribe £10 to the expenses of the International Congress of Philosophy, 1915,

and to appoint two Delegates—Dr. Wm. Brown and Dr. G. E. Moore—to represent the Society at the Congress. The following nominations of Officers for the next Session were approved:—President, Mr. A. J. Balfour; Honorary Treasurer, Dr. T. P. Nunn; Honorary Secretary, Mr. H. Wildon Carr; Dr. Goldsbrough and Dr. Shearman were re-appointed Auditors. The following members were nominated and duly elected to serve on the Executive Committee:—Dr. A. Caldecott, Prof. Dawes Hicks, Miss Constance Jones, Miss H. D. Oakeley, Dr. F. C. S. Schiller, and Dr. A. Wolf.

Mr. H. Wildon Carr read a paper on “The Principle of Relativity and its Importance for Philosophy.” A discussion followed, in which Prof. T. P. Nunn, Mr. Shelton, Mr. Worsley, Dr. Wolf, Miss Jones, Miss Oakeley, Dr. Goldsbrough and Dr. Tudor Jones took part. Mr. Carr replied.

ABSTRACT OF MINUTES OF THE JOINT SESSION OF
THE ARISTOTELIAN SOCIETY, THE BRITISH
PSYCHOLOGICAL SOCIETY, AND THE MIND
ASSOCIATION.

Meetings at Hatfield Hall, Durham.

July 4th, 1914. At 10.0. Mr. Wm. MacDougall in the Chair.—
A Symposium on "The Rôle of Repression in Forgetting"
was discussed. The papers by Mr. T. H. Pear, Dr. A. Wolf,
Dr. T. W. Mitchell, and Prof. T. Loveday were taken as
read. The discussion was opened by the writers of the papers,
the Chairman followed, and Dr. Ernest Jones, Dr. Crichton
Miller, Dr. Leslie Mackenzie, Prof. G. F. Stout, and Mr. Carr
took part. The writers of the papers then replied.

At 3.0. Prof. G. Dawes Hicks in the Chair. Mr. Alexander's
paper on "Freedom" was taken as read, and the discussion
was opened by Mr. Alexander, followed by the Chairman,
Mr. Moore, Prof. Stout, Mr. Carr, Prof. Stokes, Dr. Wolf,
Miss Oakeley, Dr. Schiller, Dr. Nunn and others. Mr. Alexander
replied.

July 5th, 1914. At 3.0. Prof. G. Dawes Hicks in the Chair.—
The Symposium on "The Status of Sense-data" was taken
as read. The writers of the papers, Dr. Moore and Prof.
Stout, opened the discussion and were followed by the
Chairman, Dr. Nunn, Mr. Carr, Prof. Brough, Prof. Alexander,
Dr. Wolf, Prof. Latta, Prof. Stokes, and Mr. J. W. Scott.
Prof. Stout and Dr. Moore concluded the discussion. At an
informal meeting later in the evening Dr. Moore expounded
Mr. Bertrand Russell's theory of the construction of physical
reality by "logical fiction."

REPORT OF THE EXECUTIVE COMMITTEE FOR THE
THIRTY-FIFTH SESSION, 1913-14.

There have been eleven ordinary meetings during the Session.

A Joint Session of the Society with the British Psychological Society and the Mind Association was arranged and took place at Durham. It consisted of three meetings for discussion. The Symposium on "The Rôle of Repression in Forgetting," by Mr. T. H. Pear, Dr. A. Wolf, Dr. T. W. Mitchell, and Prof. T. Loveday, will be published in the *British Journal of Psychology*. The Symposium on "The Status of Sense-data," by Mr. G. E. Moore and Prof. G. F. Stout, and the paper on "Freedom," by Prof. S. Alexander, are included with the other papers read during the Session in our *Proceedings*.

We regret the loss by death of two members, Mr. F. Kaibel, who had been a member for many years, and Miss Saida James, who had only recently joined us.

The membership of the Society has increased, and now consists of 122 Ordinary, 4 Honorary, and 7 Corresponding Members.

FINANCIAL STATEMENT—35TH SESSION, 1913-1914.

430

RECEIPTS.

	£	s.	d.
Balance brought forward from last Session	229	13	7
Members' subscriptions—			
Current Session	110	5	0
Arrears.. ..	5	5	0
In advance	3	3	0
Sale of <i>Proceedings</i> (nett) to June 30th, 1913	118	13	0
Interest on deposits—	30	18	4
In Joint Stock Bank	3	4	7
In Post Office Savings Bank.. ..	2	3	6
	5	8	1

£384 13 0

EXPENDITURE.

	£	s.	d.
Royal Asiatic Society, for use of rooms	93	13	0
Harrison and Sons for printing— <i>Proceedings</i> , Vol. XIII	36	18	3
Proofs of Papers sent out, Notices of Meetings, etc.	135	11	3
Gratuities	1	2	6
Income tax	0	3	6
Loss on Scotch cheques, exchange, etc.	0	4	11
Treasurer's postage and stationery	0	3	10
Balance in hand—			
On deposit in Post Office Savings Bank	45	8	11
At Joint Stock Bank (Deposit Account)	100	0	0
At Joint Stock Bank (Current Account)	90	7	1
	235	16	0
	<u>£384</u>	<u>13</u>	<u>0</u>

Examined and found correct, July 9th, 1914.—

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I.—This Society shall be called “THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY,” or, for a short title, “THE ARISTOTELIAN SOCIETY.”

OBJECTS.

II.—The object of this Society shall be the systematic study of Philosophy; 1st, as to its historic development; 2nd, as to its methods and problems.

CONSTITUTION.

III.—This Society shall consist of a President, Vice-Presidents, a Treasurer, a Secretary, and Members. Every Ex-President shall be a Vice-President. The business of the Society shall be managed by an Executive Committee consisting of the President, the Treasurer, the Secretary, and six members elected in accordance with Rule VIII.

SUBSCRIPTION.

IV.—The annual subscription shall be one guinea, due at the first meeting in each session.

ADMISSION OF MEMBERS.

V.—Any person desirous of becoming a member of the ARISTOTELIAN SOCIETY shall apply to the Secretary or other officer of the Society, who shall lay the application before the Executive Committee, and the Executive Committee, if they think fit, shall admit the candidate to membership.

CORRESPONDING MEMBERS.

VI.—Foreigners may be elected as corresponding members of the Society. They shall be nominated by the Executive Committee, and notice having been given at one ordinary meeting, their nomination shall be voted upon at the next meeting, when two-thirds of the votes cast shall be required for their election. Corresponding members shall not be liable to the annual subscription, and shall not vote.

ELECTION OF OFFICERS.

VII.—The Committee shall nominate the President, the Treasurer, and the Secretary for the ensuing session, and shall, at the Annual Meeting, submit the nominations for the approval of the Society.

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VIII.—At the same meeting the six members to constitute with the officers the Executive Committee shall be elected by ballot. Nominations, which must be signed by two members of the Society, must reach the Secretary fourteen days before the meeting, and a balloting paper shall be sent to all members. Members may return their balloting papers by post before the meeting or hand them in at the meeting.

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IX.—The ordinary meetings of the Society shall be on the first Monday in every month from November to June, unless otherwise ordered by the Committee. Such a course shall constitute a session. Special meetings may be ordered by resolution of the Society or shall be called by the President whenever requested in writing by four or more members.

BUSINESS OF SESSIONS.

X.—At the last meeting in each session the Executive Committee shall report and the Treasurer shall make a financial statement, and present his accounts audited by two members appointed by the Society at a previous meeting.

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PROCEEDINGS.

XII.—The Executive Committee are entrusted with the care of publishing or providing for the publication of a selection of the papers read each session before the Society.

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XIV.—Visitors may be introduced to the meetings by members.

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XV.—Notices to amend these rules shall be in writing and must be signed by two members. Amendments must be announced at an ordinary meeting, and notice having been given to all the members, they shall be voted upon at the next ordinary meeting, when they shall not be carried unless two-thirds of the votes cast are in their favour.

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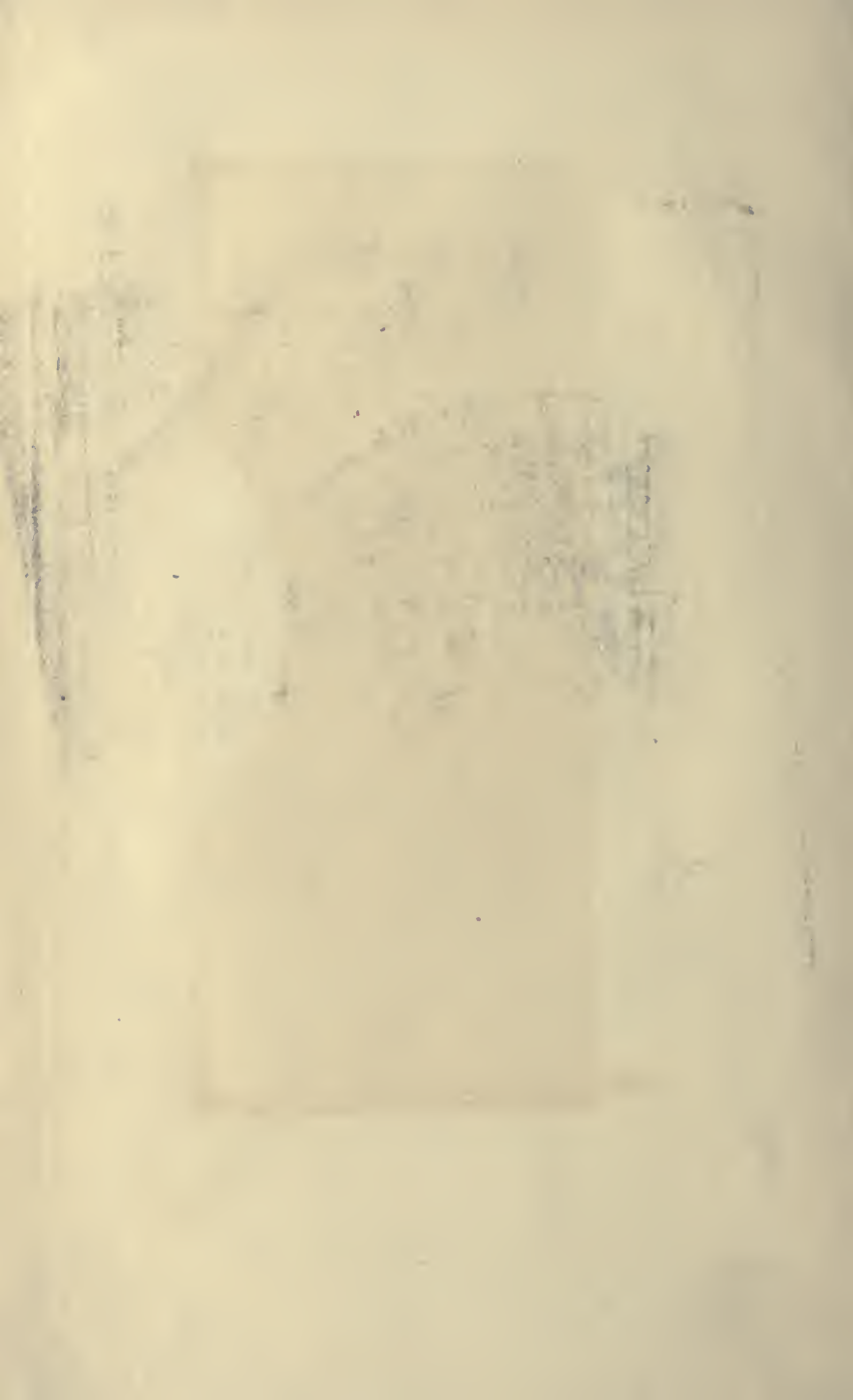
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